

Feb. 10, 1970

F. M. THIVAT

3,494,361

BREECHCLOTH WITH DETACHABLE ABSORBENT BOTTOM

Filed June 6, 1967

2 Sheets-Sheet 1

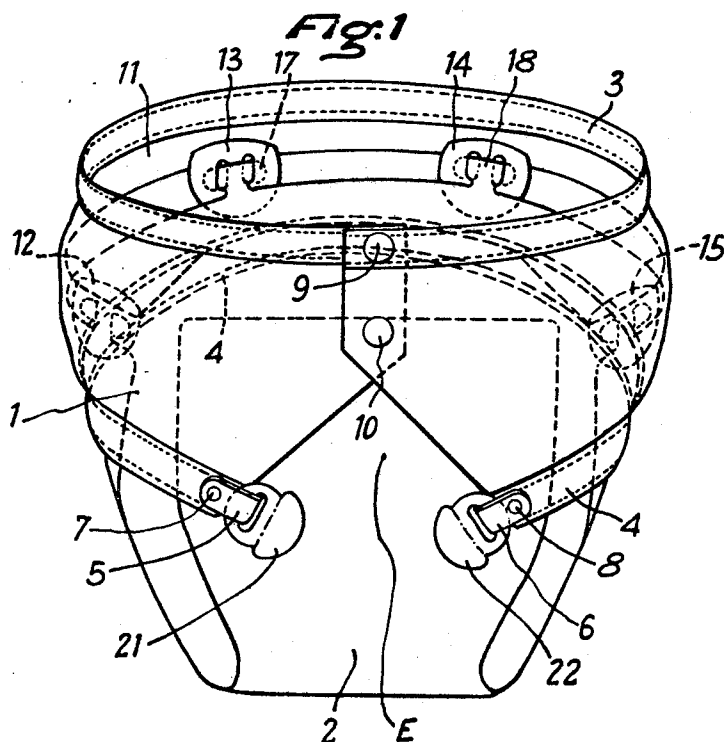
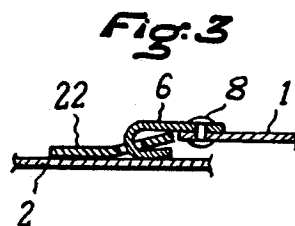
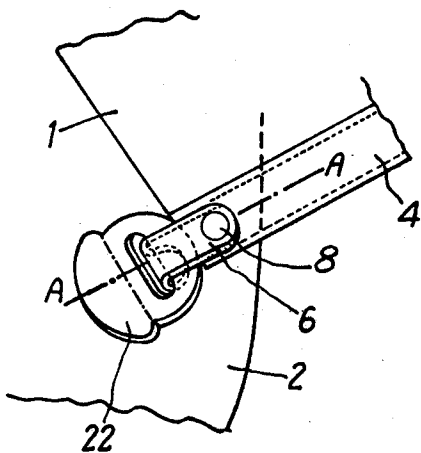


Fig. 2



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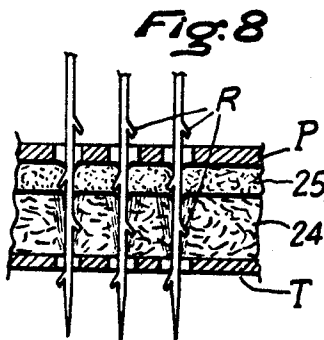
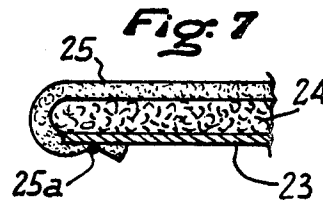
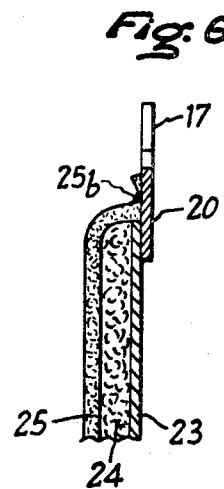
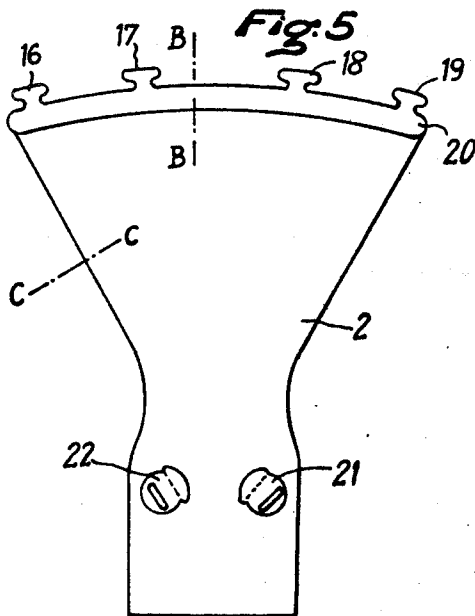
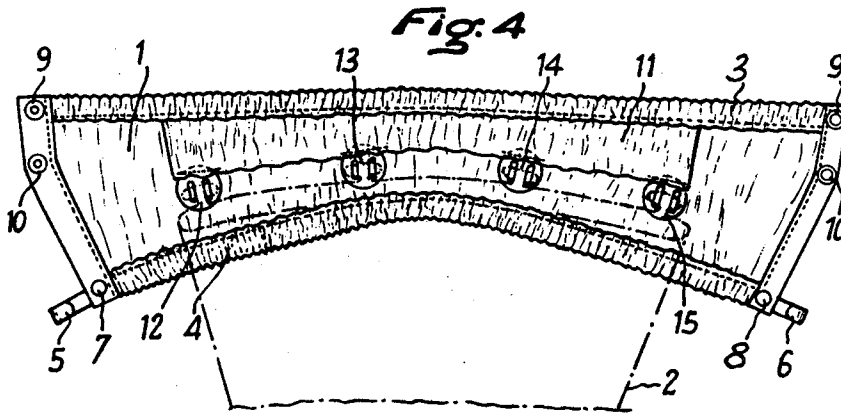
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2 Sheets-Sheet 2



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BREECHCLOTH WITH DETACHABLE ABSORBENT BOTTOM

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1 Claim

ABSTRACT OF THE DISCLOSURE

The invention broadly relates to periodic undergarments and babies' breechcloths.

It provides an absorbent garment consisting of an upper component which engirdles the waist and a lower absorbent detachable component, the said garment forming a breechcloth, whose lower element envelops the buttocks and the lower abdomen in the manner characterizing a conventional one-pieced breechcloth.

The present invention relates to periodic undergarments and to babies' breechcloths.

Babies' breechcloths consist of one piece, the bottom forming a pocket capable of receiving a coupled absorbent lining.

Periodic garments consist either of a simple belt comprising an elastic edge which supports, in a detachable manner, a sanitary towel, or are made in the form of bottomless pants co-operating with an impermeable coupled detachable bottom: in the first case, the buttocks are not covered, and this type of solution is certainly not suitable to bind up an infant; in the second case, the bottomless pants covers the buttocks and comprises in its base, two elastics which enclose the thighs, while the bottom which is coupled, and whose dimensions are small covers only the sacrum, the perineum, the groins and the hypogastrium, and consists of a waterproof material, in which it is necessary to place a lining.

A breechcloth of this type can, of course, provide suitable tightness, but it does not do away with the use of a separate absorbent lining.

Generally, known solutions are not well adapted to the morphology of the infant and do not make it possible to attach a removable bottom which is sufficiently enveloping and tight to avoid the spreading of waste materials beyond the absorbent part and which is capable, consequently, of playing the role of an efficient absorbent lining that is an integral part of the breechcloth.

It is an object of the invention to provide a breechcloth which is adapted to perform the function of an efficient absorbent lining which is an integral part of the cloth, yet combining the advantages of the various types of absorbent garments referred to above, and being at the same time better adapted to the morphology of an infant and insuring an intimate contact of the absorbent lining with the skin.

It is another object of the invention to provide an absorbent garment consisting of an upper component which engirdles the waist and of a lower absorbent detachable component, the said garment forming a breechcloth, whose lower element envelops the buttocks and the lower abdomen in the manner characterizing a conventional one-pieced breechcloth, the upper component having an upper elastic edge which completely encloses the waist and a lower elastic edge which through the back goes to the hollow part of the loins a few centimeters beneath the upper elastic edge, at the beginning of the buttock muscles and after having engirdled the hips, descends obliquely on the front along the two groins while pressing on the begin-

ning of the thighs, said upper element opening through the front and leaving the lower abdomen uncovered, and the lower component being, through the back, attached to the inside of the upper component, preferably to the upper edge of the latter, so as to envelop the buttocks and attached on the front to the lower elastic edge of the upper component so as to cover the lower abdomen.

According to an important feature of the invention, the lower component consists of a hydrophilic textile material forming an absorbent pad which is lined on its internal face with a sheet made of a permeable and hydrophobic textile material and on its external face with a waterproof material, fibers of the hydrophobic sheet penetrating into the absorbent pad as a result of the assembly of these two layers through tagging.

These and other objects of the invention will become apparent from the following description.

In the appended drawings:

FIGURE 1 is a perspective view of a baby's breechcloth in accordance with a preferred embodiment of the invention;

FIGURES 2 and 3 represent, respectively in perspective and in cross-section along AA in FIGURE 2, the attachment of the lower component to the lower elastic of the upper component.

FIGURE 4 is a plan view of the internal face of the upper component.

FIGURE 5 represents the external face of the lower component.

FIGURE 6 is a section along BB of FIGURE 5.

FIGURE 7 is a section along CC of FIGURE 5, and

FIGURE 8 illustrates the tagging process used for assembling the absorbent and hydrophobic layers which make up the lower component.

The same reference numerals designate the corresponding components in the various figures.

It can be seen in FIGURE 1, that upper component 1 and lower component 2, once they are attached to one another, constitute a complete breechcloth which has substantially the usual form of a one-pieced conventional breechcloth.

The upper component (FIGURE 4) is advantageously made in polyvinyl chloride or other flexible waterproof material. Its upper and lower edges, folded back and closed by high frequency soldering, form a sheath around two elastics 3 and 4.

Two hooks, 5 and 6 are respectively wedged by rivets 7 and 8 at both extremities of the lower edge.

It can be seen, in FIGURE 4, that each of the lateral edges of component 1 forms an angled line, whose upper part carries two snap fasteners 9 and 10. FIGURE 1 shows that, when these fasteners are closed, the lower part of the lateral edges of component 1 delineates a clear triangular space E.

It is evident that both elastics 3 and 4 will engirdle the hollow part of the infant's loins several centimeters away from one another, the lower elastic passing around the hip and descending on the front along the groin and pressing on the beginning of the thigh. This arrangement is perfectly adapted to the particular morphology of the infant and provides maximum comfort.

The internal face of component 1, visible in FIGURE 4, is provided with a loose part 11, advantageously pinched beneath the upper edge, which carries flaps 12 to 15 each provided with two slits that are to receive the extremities of plugs 16 to 19 with which lower component 2 is provided. The upper part of this lower component is shown as a dotted line, in FIGURE 4, so as to show the assembly of the upper edge of component 2 with component 1.

In FIGURE 5, it can be seen that plugs 16 to 19 are cut out from a strip 20 attached to the upper edge of

component 2, on the external face of the latter, which carries as well, flaps 21 and 22.

Strip 20 and flaps 21 and 22 may advantageously be cut out from a cardboard coated with polyvinyl chloride, which makes it possible to solder them on layer 23 of component 2, as shown in FIGURE 6.

Flaps 21 and 22 are provided each with an orifice which is to receive the corresponding hook (5 and 6) of component 1.

In order to assemble components 1 and 2, the lower part of component 2 is simply raised, after having engaged the tabs of plugs 16 to 19 into the slits of the respective flaps 12 to 15, as shown in FIGURE 4, and hooks 5 and 6 are engaged in the orifices of flaps 21 and 22.

FIGURES 2 and 3 illustrate the detail of this latter operation, while FIGURE 1 shows the completed assembly: it can be seen that component 2 constitutes the major part of the breechcloth. Indeed, it not only forms its bottom but, through the back, it covers almost the entire internal surface of component 1, while through the front, it goes up, beyond flaps 21 and 22, so as to completely cover space E and become engaged beneath the closing region of component 1 delineated by snaps 9 and 10. The breechcloth thus constituted forms, therefore, an envelope which is closed as much as possible and whose entire external surface, moreover is waterproof.

Indeed, not only component 1 is waterproof, but component 2 itself comprises an external waterproof face 23, as shown in FIGURES 6 and 7.

On the major part of its thickness, component 2 consists of an absorbent pad 24. This pad is covered, on its external face, with a waterproof layer 23, advantageously made of a paper sheet bearing a polyvinyl chloride coating and, on its internal face, with a sheet 25 made of hydrophobic permeable material.

Such permeable and hydrophobic materials, generally unwoven textiles, are well-known and it has already been proposed to line an absorbent sheet, on one face, with such a hydrophobic sheet so as to constitute absorbent linings, in particular for babies' diapers: the hydrophobic material, placed in contact with the skin, allows passage of organic liquids, through negative capillary action, and expels them towards the absorbent layer, so that the skin remains dry.

It should be emphasized that the hydrophobic material must, in order to fulfill its role, constitute an even surface in intimate contact with the skin with a certain overpressure.

The breechcloth according to the invention is precisely designed and made so as to lead to this result. Indeed, component 2 is completely maintained in a flat position against the skin through component 1, without the formation of folds and without friction, both extremities of elastic 4 exercise, in an oblique direction, a pulling action on clamps 21-22 (FIGURE 1), thus insuring the maintenance of component 2, which is much more efficient than if it were simply suspended from the upper edge of component 1, and a perfect tightness inside the thighs.

The hydrophobic layer 25 advantageously consists of a sheet of polyvinyl chloride fiber, which makes it possible to tie it through high frequency soldering to the periphery of layer 23, at 25a and 25b (FIGURES 6 and 7).

According to a particular feature of the invention, the insulating (25) and absorbent (24) sheets are assembled through tagging, in the manner illustrated in FIGURE 8.

Both sheets are placed between a table T and a stripping plate P and there are introduced needles provided with pins R all oriented in the same direction, hooking onto the fibers in sheet 25 and causing them to penetrate throughout the entire thickness of sheet 24: this results in a considerable improvement in the transmission, through capillary action, of liquids from the hydrophobic cover towards the absorbent sheet, without the hydrophobic cover towards the absorbent sheet, without the hydrophobic sheet, in which no fiber whatsoever of the absorbent sheet has penetrated, losing its insulating and hydrophobic power.

Preferably, the hydrophobic sheet 24 is folded back (at 25a, FIGURE 7), around the lateral edge of bottom 23, so as to increase comfort between the legs, and to contain absorbent 24.

It is understood that the clasps might be of a different type and component 1 entirely constituted of an elastic material, which would make it possible to do away with elastics 3 and 4.

What is claimed is:

1. A garment with a detachable absorbent bottom consisting of an upper component which engirdles the waist and of a lower detachable absorbent component, the upper component having an elastic upper edge which encloses completely the waist and a lower elastic edge which, through the back passes to the hollow part of the loins a few centimeters beneath the upper elastic edge, at the beginning of the buttock muscles and after having engirdled the hips, descends obliquely on the front along the two groins by pressing on the beginning of the thighs, said upper component opening through the front and leaving the lower abdomen uncovered, and the lower component being attached through the back, to the inferior of the upper component, so as to envelop the buttocks and attached on the front to the lower elastic edge of the upper component, whereby the lower abdomen is covered, wherein the lower component consists of a hydrophilic textile material forming an absorbent pad lined, on its internal face, with a sheet made of a hydrophobic permeable textile material, and on its external face with a waterproof material, fibers of the hydrophobic cover penetrating into the absorbent pad as a result of an assembly of these two layers through tagging.

References Cited

UNITED STATES PATENTS

219,820	9/1879	Kohl	128—287
1,669,188	5/1928	Condylis	128—284
2,013,436	9/1935	Downing	128—287
3,039,466	6/1962	Wilson.	

FOREIGN PATENTS

110,088	5/1925	Switzerland.
431,947	7/1926	Germany.
508,390	1/1952	Belgium.
514,933	3/1921	France.

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