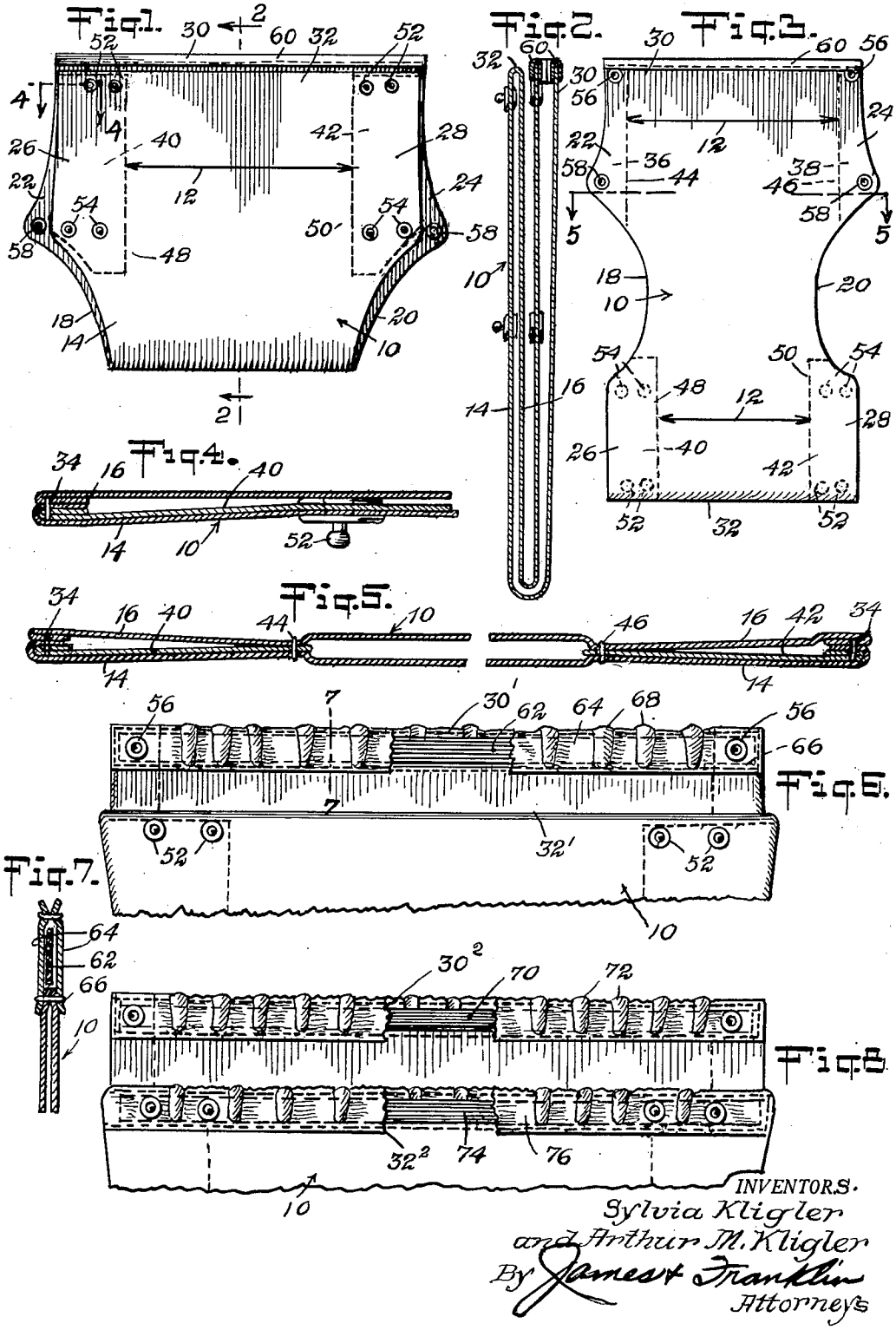
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FORM-FITTING DIAPER GARMENT

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FORM-FITTING DIAPER GARMENT

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This invention relates to a form-fitting diaper garment and more particularly to a pinless type of form-fitting diaper for infants and young children.

Pinless types of diaper garments designed also to be form-fitting, intended as an improved structure to replace the folded, safety-pin secured, type of diaper, have been suggested over a period of many years; but such improved types of diaper garments have not been generally adopted in spite of the many advantages that they offer. The prime object of our present invention is directed to the construction and mechanical design of a diaper garment which we have found to so solve the several desiderata for this type of garment as to make it widely acceptable for general adoption as the effective solution of the problems and needs of service involved.

To the achievement of this main object, the more particular objects of our invention are:

1. to provide a pinless type of diaper which in addition to the fact that it is so contoured in form that it may be "put on" and "taken off" the child while the latter is in a position of repose, and when "put on" assumes a form-fitting panty shape, is so constructed that it "stays put" when worn by the child and provides a continuing comfort in use, even under temporary adverse conditions; and

2. to provide a pinless, button-up type of diaper garment so designed and constructed that within the scope of its mechanical design it may be readily adapted for children of various young age groups and particularly for infants, "crawlers" and "toddlers," providing for each age group a garment for this type which may be worn with maximum comfort.

To the accomplishment of these objects and such other objects as may hereinafter appear, our invention relates to the diaper garment as is more specifically defined by the appended claims and described in the following specification taken together with the accompanying drawings, in which:

Fig. 1 is a view of the diaper garment of our present invention showing the same in a folded condition ready for closing the closure elements thereof in the act of dressing the child;

Fig. 2 is a view thereof drawn to an enlarged scale and taken in cross-section in the plane of the line 2—2 of Fig. 1;

Fig. 3 is a view thereof drawn to a reduced scale and showing the same in the flat or open position;

Fig. 4 is a fragmentary view thereof drawn to an enlarged scale (with reference to Fig. 3) and

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taken in cross section in the plane of the line 5—5 of Fig. 3;

Fig. 6 is a view of the top section of a diaper garment embodying the principles of our invention and of a modified form thereof;

Fig. 7 is a fragmentary view of Fig. 6 taken in cross section in the plane of line 7—7 of Fig. 6; and

Fig. 8 is a view similar to Fig. 6 but of another modification thereof.

Referring now more in detail to the drawings and having reference first to Figs. 1 to 5 thereof, which drawings exemplify a construction of our diaper garment especially adapted for use with children in the infant age stage, the garment comprises a double ply generally rectangular shaped body generally designated as 10, made of a fabric material which is stretchable laterally only as indicated in Figs. 1 and 3 by the arrows 12, 12, the two plies 14 and 16 of the body being secured together at their sides to produce a unitary assembly. The said sides of the body are concavely contoured midway of the body as at 18 and 20 to form the crotch portion of the garment, the remainder of the sides of the body at the opposite sides and opposite ends thereof, namely, the parts 22, 24, 26 and 28, four in number being laterally extended to form the side sections of the waist-to-thigh portions of the garment as is most clearly shown in Figs. 1 and 3 of the drawings. The opposite ends 30 and 32 of the body form the waist portion of the set-up garment (see Fig. 1).

The two plies 14 and 16 of the body 10 are secured together at their sides as by stitching the same throughout the length of their sides by a line of stitching 34 (see Fig. 4). Preferably the said two plies are produced from assembling the patterned sheet of material double the length of that shown in Fig. 3 and folded to form the lower edge or end 32 after which the sides may be stitched together as indicated, thus producing a structure in which the plies are also secured at least at one end of the body. After the sides are stitched together the assembly is turned outside in, as will be obvious, to produce the condition depicted in the figures.

With the structure thus far described a diaper garment is produced which effectively carries out the intended purposes of garments heretofore suggested, the resulting garment being a form-fitting design, which when "put on" the child produces a panty-like assembly having that contour which yields a close fitting, comfortable and yet ample crotch portion adaptable for the particular service intended and a supporting body portion intended, but not always effective, to com-

fortably fit the waist-to-thigh portion of the body. In the construction of our present invention, in addition to accomplishing effectively these intended objects, the garment when "put on" the child assumes a form-fitting panty shape in such a way that the garment "stays put" when worn by the child and provides a continuing comfort in use even under adverse conditions as when the garment is wetted or soiled.

To accomplish this, all of the waist-to-thigh portions of the garment, namely the sections 22, 24, 26 and 28 are converted to a non-stretchable condition over substantially the entire areas thereof so that these sections are rendered non-stretchable both laterally and longitudinally when the garment is in use, the mating closure elements of the garment located at both the waist and thigh regions of the same being encompassed within the area of each of said waist-to-thigh side sections. To effectuate this, each of said waist-to-thigh sections, 22 to 28, is provided with a non-stretchable fabric firmly attached over its full area to each of such sections of the body. Preferably, these non-stretchable fabric parts comprise inserts 36, 38, 40 and 42, which are conveniently sewed to both plies of the body, the said sections 36 to 42 being sewed to the said plies as by means of the encompassing lines of stitches 44, 46, 48 and 50. Preferably also these non-stretchable fabric inserts are also initially sewed to the waist-to-thigh portions of the body sides as is indicated by the lines of stitching 34, 34 in Figs. 4 and 5 of the drawings.

The pinless character of the garment is obtained by locating the mating closures, here in the form of snap fasteners, at the waist and thigh portions of the garment; and these closure elements are also arranged as to permit an adjustable attachment. That part of the garment which forms the front thereof in set-up condition is consequently provided with the spaced snap fastener elements 52, 52; the thigh portion of said garment front is provided with the snap fastener elements 54, 54; that portion of the garment which forms the back side thereof is provided at the waist with the mating snap fastener elements 56, 56 and that part of the back of the garment which is at the thigh is provided with the mating snap fastener elements 58, 58. The back side of the garment in use underlaps the front side of the garment as shown in Fig. 1 whereby the side sections of the garment may be secured together in overlapping relation, which with the spaced fasteners also yields an adjustability in overlapping relation, as will be readily apparent from an inspection of Fig. 1 of the drawings. As aforesaid, the closure elements are arranged within the compass or confines of the non-yieldable inserts and are preferably attached thereto.

By means of this last cited construction, the garment when "put on" the child is made to hold snugly and retentively at the sides of the child's body, the waist-to-thigh side sections of the garment being relatively unyielding to lateral stretching and stretching on-the-bias as well as to longitudinal stretching. The end result is that the garment is not only form-fitting but "stays put" when worn by the child and provides a continuous comfort in use as well as full support for the remainder of the garment particularly under temporary adverse conditions, as when the garment is in a wetted or soiled condition.

The garment is also rendered adaptable for children of various young age groups and particularly for infants, "crawlers" and "toddlers" providing for each age group a garment of this type which may be worn with maximum comfort.

In the form shown in Figs. 1 to 5 the upper end 30 is left open and the open edges are preferably provided with the non-stretchable binding 60. This open end permits the insertion and removal of extra pads intended for use when the garment is used with the infant age group; and the binding edge is intended to serve the purpose of avoiding a laterally stretchable waist line at the back. For the infant class garment it is desired to obtain a flexible but unyielding support in the back while permitting, however, full expansibility at the front to enable unhindered breathing and stomach movements, the latter being obtained by an unconfined stretchability for the bottom end 32 of the garment.

In Figs. 6 and 7 we show a modified construction intended for children of the "crawler" group. This modification, otherwise the same as that shown in Figs. 1 to 5, embodies a construction in which both ends 30′ and 32′ are closed and in which the closed end 30′ is constructed so as to permit a limited lateral stretchability, the end 32′ being unmodified to permit lateral stretchability within the stretchable capacity of the body fabric. To effectuate this the end 30′ is provided with a sewed in rubber or rubberized insert 62 housed in binding 64 in turn sewed at 66 to the garment body 10, the binding being gathered as at 68 to define the limits of stretchability. The remaining parts of the garment correspond to the parts shown in Figs. 1 to 5 and are correspondingly numbered.

In Fig. 8 we show a garment intended for the "toddler" children group. In this garment both ends 30^2 and 32^2 are each provided with a binding and rubber insert to permit limited lateral stretchability on both the front and back of the waist portions of the garment. The end 30^2 is thus provided with a rubber or rubberized insert 70 housed within the sewed in binding 72 and the other end 32^2 is provided with a similar insert 74 housed within the similar sewed in binding 76. Here, too, the remaining parts of the garment are similar to those shown in Figs. 1 to 5 and are correspondingly numbered.

The diaper garment of our invention, the manner of constructing and using the same and the advantages thereof will in the main be fully apparent from the above detailed description thereof. It will be further apparent that changes may be made therein without departing from the spirit of the invention defined in the following claims.

We claim:

1. A form-fitting diaper garment comprising a double-ply generally rectangular shaped body made of a laterally stretchable fabric material, the two plies of the body being secured together at their sides and at least at one end thereof, the sides of the body being concavely contoured midway of the body to form the crotch portion of the garment, the remanider of the sides of the body at the opposite sides and opposite ends thereof, four in number, being laterally extended to form the side sections of the waist-to-thigh portions of the garment, and the opposite ends of the body forming the waist portion of the garment, a non-stretchable fabric attached to each of said waist-to-thigh sections of the body over substantially the entire areas thereof that

forms the side sections of the garment to render said waist-to-thigh side sections not stretchable both laterally and longtudinally in the garment-in-use, and mating closure elements located at the waist and thigh regions and encompassed within the area of each of said waist-to-thigh side sections.

2. A form-fitting diaper garment comprising a double-ply generally rectangular shaped body made of a laterally stretchable fabric material, the two plies of the body being secured together at their sides and at least at one end thereof, the sides of the body being concavely contoured midway of the body to form the crotch portion of the garment, the remainder of the sides of the body at the opposite sides and opposite ends thereof, four in number, being laterally extended to form the side sections of the waist-to-thigh portions of the garment, and the opposite ends of the body forming the waist portion of the garment, a non-stretchable fabric insert located between the two plies of the body and attached to each of said waist-to-thigh sections of the body over substantially the entire area thereof that forms the side sections of the garment to render said waist-to-thigh side sections not stretchable both laterally and longitudinally in the garment-in-use, and mating closure elements located at the waist and thigh regions and encompassed within the area of each of said waist-to-thigh side sections.

3. The form-fitting diaper garment of claim 1, in which one end of the double-ply body is open for access to the interior of the double-ply body, and in which the edges of said end are provided with a non-stretchable binding to render said end laterally non-stretchable.

4. The form-fitting diaper garment of claim 1, in which the two plies of the body are attached

to each other at both ends of the body and in which one of said ends is provided with a binding and rubber insert to permit limited lateral stretchability at that end, the other end being unmodified to permit lateral stretchability within the stretchable capacity of the body fabric.

5. The form-fitting diaper garment of claim 1, in which the two plies of the body are attached to each other at both ends of the body and in which each of said ends is provided with a binding and rubber insert to permit limited lateral stretchability of the garment on both the front and back of the waist portion of the garment.

6. A form-fitting diaper garment comprising a double-ply generally rectangular shaped body made of a laterally stretchable fabric material, the two plies of the body being secured together at their sides, the sides of the body being concavely contoured midway of the body to form the crotch portion of the garment, the remainder of the sides of the body at the opposite sides and opposite ends thereof, four in number, being laterally extended to form the side sections of the waist-to-thigh portions of the garment, and the opposite ends of the body forming the waist portion of the garment, a non-stretchable fabric attached to each of said waist-to-thigh sections of the body over substantially the entire area thereof that form the side sections of the garment to render said waist-to-thigh side sections not stretchable both laterally and longitudinally in the garment-in-use, and mating closure elements located at the waist and thigh regions and encompassed within the area of each of said waist-to-thigh side sections.

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