Dec. 21, 1954

L. WALTERS

2,697,226

PANT TYPE LEGLESS GARMENT

Filed April 2, 1954

2 Sheets-Sheet 1

FIG. 1.

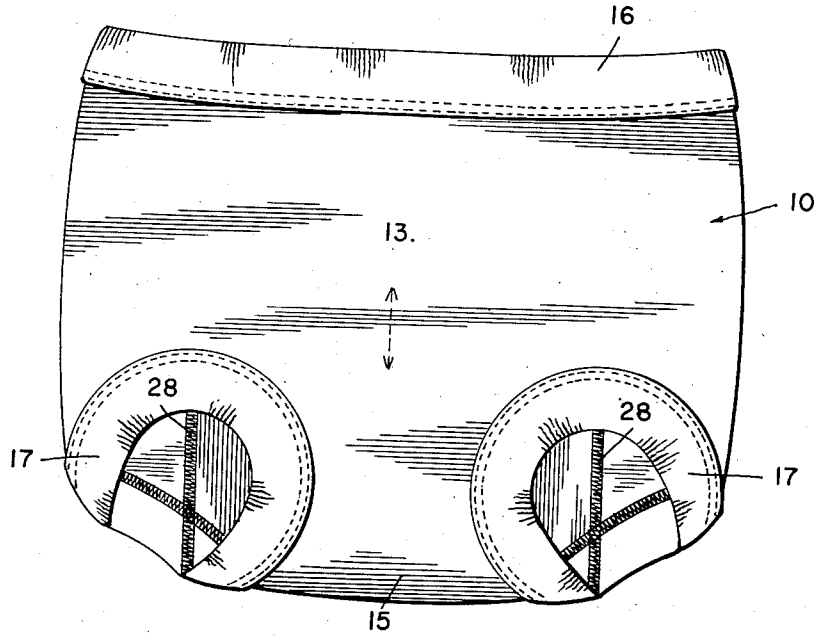
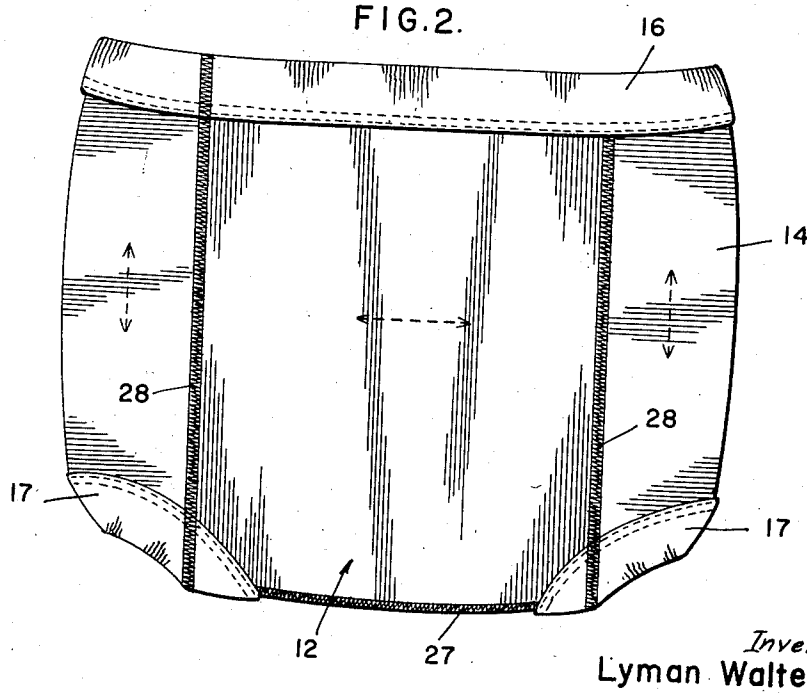


FIG. 2.



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2 Sheets-Sheet 2

FIG. 3.

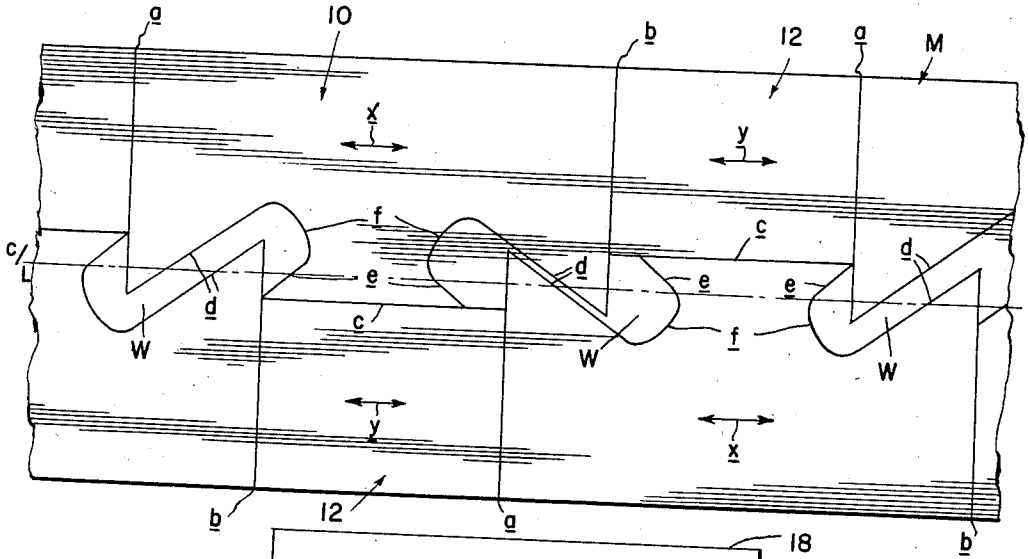


FIG. 4.

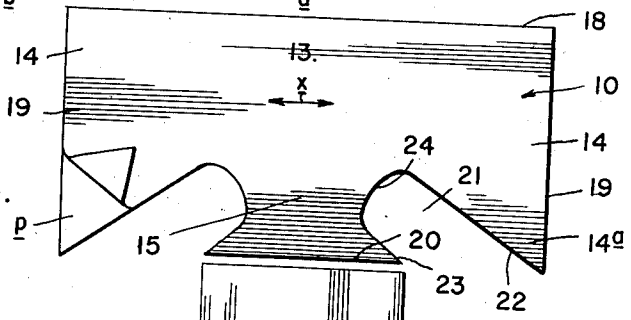
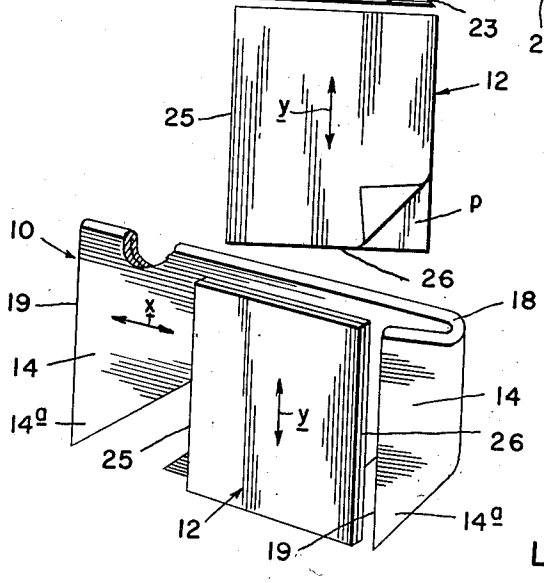


FIG. 5.



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PANT TYPE LEGLESS GARMENT

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Application April 2, 1954, Serial No. 420,659

2 Claims. (Cl. 2—224)

This invention relates to knit garments of the children's training pant or pantie type. Among the objects of this invention are to tmake the main body portion of such a pant of a minimum number of pieces; having a minimum number of seams and especially with no front seam; having means for obviating drooping of the crotch; giving one direction of stretch in the front and another in the back; and being made of parts so shaped as to dovetail into each other when cut from the knit material as to minimize wastage of material therebetween.

These and possibly other objects are realized by forming the main body portion of the garment of only two pieces of knit material secured together by only three seams wherein there is a vertically-waled horizontally stretchable back panel to whose sides are stitched the ends of the other panel that wraps around the hips of the wearer and is horizontally-waled and thus vertically-stretchable. The other panel has leg-openings and the crotch portion therebetween is stitched to the bottom edge of the back panel whose vertical wales hold the crotch against drooping. The other portions of the bottom edge of the other panel are stitched together to complete the form of the garment.

In the drawings:

Fig. 1 is a view in front elevation of a garment constructed in accordance with the present invention.

Fig. 2 is a view in rear elevation of the same.

Fig. 3 is a plan of the pattern layout for cutting a plurality of the pairs of pieces for the garment from the tubular knit length of material illustrating the novel manner in which the edges of the pieces interfit to minimize waste of material.

Fig. 4 is a view illustrating two parts or panels of the garment ready for carrying out one step in joining or combining the same for the formation of the garment, a corner of each piece being turned up to show the double lamination.

Fig. 5 is a view in perspective of the parts showing the same ready for joining together one side edge of the main panel and an edge of the back panel.

Referring now more particularly to the drawings wherein Figs. 1 and 2 illustrate front and rear views respectively of the completed garment, it will be seen that such garment comprises two main or principal parts which are designated **10** and **12** respectively, disregarding the trimming or accessory materials employed for binding exposed edges.

The part **10** constitutes a main panel which is formed as a single unit and may be of single or double thicknesses of material and is of a width to provide the central abdominal portion **13** and side or hip enclosing portions **14** each terminating in a tapered or pointed wing **14***a* and the lower crotch or tongue portion **15**.

The accessory elements of the garment include and are here shown as the waistband trim **16** and corresponding trim **17** for each of the garment leg openings, the garment being of the legless type as illustrated.

The waistband trim **16** may be in the form of a hem or the like through which may be run a suitable elastic, not shown, if desired.

The two principal parts **10** and **12** are cut in the novel manner illustrated in Fig. 3 from a length of tubular material, if double thickness garment is desired, or may be cut from a suitable length of single thickness material if a garment of single thickness is to be made.

Fig. 3 illustrates the pattern layout on a length of material such as tubular knitted material, for a plu-

rality of the garments, the length of material being generally designated M. The width of the material is selected in accordance with the size of the garment to be produced and as shown pattern for the parts is laid out so that the main panel portions **10** alternate along or lengthwise of each side portion of the length of material with the back panels **12**.

The length of material may be cut by any suitable means, as by hand with scissors, by a suitable mechanical cutting means carrying knives arranged to define the pattern, or by a hand guided cloth cutter following the pattern lines laid out on the cloth.

The pattern as laid out in Fig. 3 shows a plurality of cut lines extending in a direction transversely of the length of material from each longitudinal edge thereof, which lines are alternately designated *a* and *b*, and each extends at its inner end slightly beyond the longitudinal center line *c/l* of the piece of material.

Reading from left to right on this figure, the length of material lying between lines *a*—*b* represents the length of the top edge of the major panel **10** and the length of material lying between the lines *b*—*a* represents the length of the sides of the minor panel **12**.

Extending in a direction lengthwise of the material piece are the short cut lines *c* which are located alternately on opposite sides of the center line *c/l* of the material or in staggered relation with respect to such line and each of these lines *c* joins adjacent pairs of lines *b*—*a*, between points short of the inner ends of the latter lines.

Each pair of lines *b*—*a* and the connecting line *c* therebetween defines the minor or back panel **12** and locates the latter opposite to and approximately centrally of a major panel **10**.

The crotch portion **15** of the major panel **10** may be defined broadly as frusto-deltoid in outline and is formed by cutting the material in the parts lying between the pairs of lines *a*—*b*, obliquely across the center line *c/l*, along the spaced parallel lines *d*—*e*, the lines *e* joining the adjacent lines *c* between the adjacent pair of lines *b*—*a* and the lines *d* each joining the inner end of a line *a* or *b*.

The ends of each pair of parallel lines *d*—*e* which approach the transverse center of the major panel **10** are joined by the substantially semi-circular cut line *f* which defines a part of the leg opening of the garment.

It will be seen from the foregoing description and upon reference to Fig. 3 of the drawings, that the pattern layout for producing a number of pairs of panels **10**—**12** is such that only very small pieces of waste material are formed and, therefore, this pattern design provides for maximum economy in producing the garments from the length of material. Such pieces of waste material occur between the lines *d*—*d* and *d*—*e* and are designated by the reference character W.

As indicated by the short double-headed arrows *x* and *y* located respectively on the major and minor panels **10** and **12**, the wales of the material run lengthwise of the latter.

Fig. 4 illustrates a pair of the panels **10** and **12** as cut from the length of material and in the proper relative positions or relation preparatory to joining the same together for the formation of the garment.

As shown in Fig. 4, the major panel **10** has the top or waist edge **18** and side edges **19** which are perpendicular to the edge **18**. From each end of the lower edge **20**, the material has the inwardly converging openings **21** cut therein which are defined by the spaced parallel edges **22** and **23** and the substantially semi-circular inner edge **24** thereby forming the hereinbefore defined frusto-deltoid form of the front crotch or tongue portion **15**, the edge **20** defining the base of the figure and the edges **23** forming portions of the convergent sides thereof.

The minor panel **12** constitutes the back portion or back panel of the garment and is of rectangular outline having the parallel long side edges **25** and the parallel transverse end edges **26**.

As indicated by the double-headed arrow *y*, the wales of the minor panel extend lengthwise or parallel to the edges **25** and in assembling this panel with the major panel, the minor panel is positioned so that one of the

end edges 26 opposes the edge 20 of the front crotch portion 15 of the major panel thus positioning the wales *y* of the minor or back panel perpendicular to the wales *x* of the major panel.

The width of the minor panel 12 along an end edge 26 is the same as the length of the edge 20 to which it is secured.

Fig. 5 illustrates a further step in joining panels 10 and 12 together wherein it is shown that an edge 19 is brought into opposed relation with a side edge 25 of the minor or back panel for attachment thereto and it is also shown that the length of the edge 19 of the major panel is substantially the same as the length of the minor panel edge 25 to which it is secured. It will, of course, be understood that the opposite edge 19 of the major panel will be brought into the same relation with the other longitudinal edge 25 of the minor panel to be secured thereto.

When the panels are associated in the manner described with a transverse edge 26 of the minor panel in position against the edge 20 of the major panel and with the edges 19 of the major panel in position against the longitudinal edges 25 of the minor panel, the said adjacent or opposing edges are stitched together in the conventional manner as indicated by the reference characters 27 and 28 in Figs. 1 and 2.

After the edges of the two panels have been joined in the manner stated, forming the three seams two of which extend vertically at the back of the garment and one transversely of the crotch, as illustrated in Fig. 2, the binding or trim 16 may be placed around the top edge of the garment and the leg openings bound by the trim 17 as shown.

As shown in Fig. 2, and as previously set forth, the width of the major panel 10 is such that the central portion 13 will cover the abdomen and the side portions 14 will wrap around the hips, bringing the vertical seams 28 at the back.

With the wales running horizontally throughout the portions 13, 14 and 15 of the major panel, vertical stretch is provided to accommodate the garment to the contour of the abdomen and hips while, with the wales running vertically in the minor or back panel, horizontal stretch is permitted and the drooping or bagging of the seat portion is effectively prevented.

When the panels are cut from tubular knit material, the top edge 18 of the major panel will be a closed or folded edge and one edge of the minor panel will also be closed or folded but to facilitate the joining of this panel to the major panel, the closed edge of the minor panel is cut so as to completely separate the plies.

In Fig. 4, the two plies of the major and minor panels are indicated by the reference character *p*. However, as previously stated, the garment may be cut from a length of single ply material if preferred.

In Figs. 1 and 2, the broken line arrows indicate the direction of stretch of the garment parts whereas in the remaining figures, 3, 4 and 5, the full line arrows designate the direction in which the wales run, the stretch being, of course, perpendicular to the direction indicated by these arrows.

Advantages

Thus, by the practice of this invention, a construction of such garment is obtained that provides a better-fitting garment with longer wearing qualities due to its unique construction, as follows: (1) The main body construction is made of two pieces of fabric of double thickness cut from tubular knit cloth thus allowing for double thickness of cloth throughout the entire garment thus adding to the wearing life of same; (2) the two-piece body construction is obtained with only three main seams against similar types of garments with four or more seams. This allows for less constriction and more elasticity of garment providing greater comfort for the wearer. There is also an economy in manufacturing due to the less seaming operations, and (3) greater comfort in the wearing of the garment is provided in the arrangement of the wales in the two pieces of knit cloth making up the body portion of the garment providing for greater elasticity where needed, in that the main piece (larger of the two pieces) wales run horizontally to body allowing garment to give with bending or side stretching thus minimizing the creeping of the elastic at the waist, and in the back panel the wales run perpendicular with the body allowing for accordion or fan-shape arrangement which allows spreading or elasticity of cloth over the buttocks of the body. This provides more elasticity in bending or stooping in this portion of the garment.

I claim:

1. A legless infant-training pant comprising a major panel of rectangular outline having top and bottom longitudinal marginal edges and transverse end marginal edges and a rectangular minor panel having straight side edges and straight top and bottom end edges, the major panel having two complete substantially U-shaped leg openings therein extending convergently inwardly from opposite ends of the bottom marginal edge thereof, forming a depending crotch portion between said openings of substantially frusto-deltoid outline, the base of which crotch portion comprises a section of said bottom marginal edge, said minor panel bottom edge being of the same length as and sewn to the base of said crotch portion and said side edges of the minor panel each being the same length as and sewn to the transverse end marginal edge of the major panel, the said major panel being adapted to cover the front abdominal portion and wrap around an infant's hips and said minor panel being adapted to close the gap between the transverse end marginal edges of the major panel across the infant's rear, the seam between the bottom edge of the said bottom marginal section of the major panel and the attached bottom edge of the minor panel extending across the pant between the leg openings.

2. A legless infant-training pant according to claim 1 wherein the major panel has wales extending circumferentially of the pant and the minor panel has wales extending longitudinally of the pant.

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