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M. H. FAUST

3,238,747

MATERNITY PANTY GIRDLE

Filed Oct. 6, 1961

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Fig. 1.

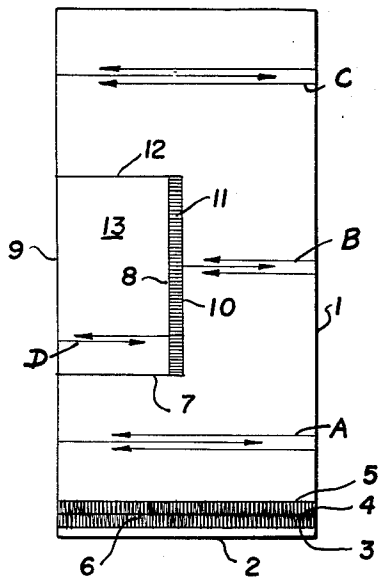


Fig. 3.

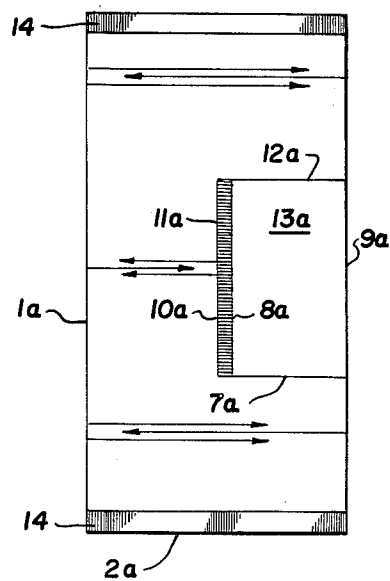


Fig. 2.

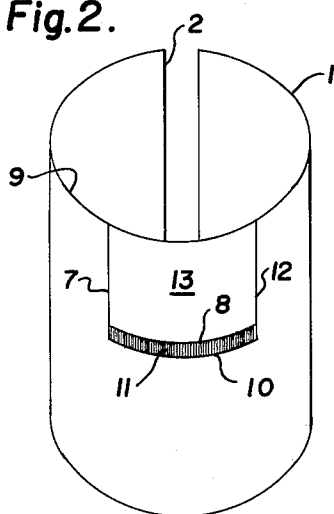
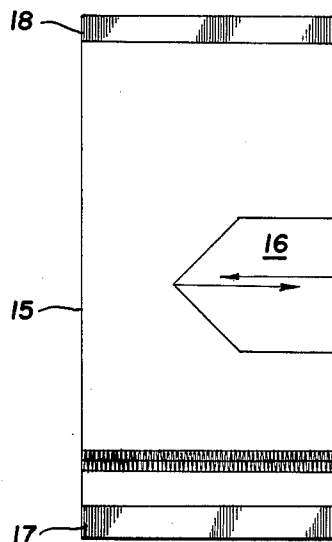


Fig. 4.



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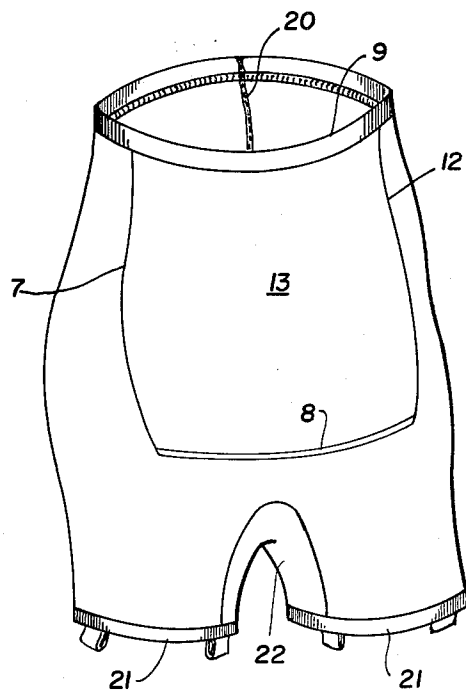
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Fig. 5.



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MATERNITY PANTY GIRDLE

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This invention relates to a method of knitting, and to a finished full fashioned blank of knitted material, useful for making women's panties, panty girdles and other garments.

An outstanding disadvantage of conventional panty girdle constructions is that they are made of a plurality of blanks joined by a plurality of seams, including a pair of vertically running seams along the sides of the legs or hips, which seams cause discomfort in wear. Moreover, the cost of manufacture is high since numerous blanks are made separately and then seamed together along a plurality of seams.

An object of the invention is to overcome the above-mentioned disadvantage by making a panty girdle basically from a single, full fashioned, knitted blank seamed into cylindrical form by seaming the ends together so as to provide only a single seam running vertically along the back of the wearer where it does not cause discomfort.

A still further disadvantage of conventional knitting methods used for knitting a full fashioned ladies' panty girdle is that the width of the girdle is limited by the width of the head of the full fashion machine, such as, for example, a 14 inch head, on a 45 gauge Reading Full Fashion Hosiery machine. That is to say, the panty is generally made from a front panel, which can be made only up to 14 inches wide on a 14 inch head, which is seamed to a rear panel of like width, so that the seams extend vertically along the sides of the wearer. To make a wider panty it is necessary to use a wider head than a 14 inch head, which provides inventory problems.

Another object of the present invention is to obviate the last mentioned difficulty by knitting courses at right angles to the conventional way. That is, instead of knitting the wales or courses parallel to the greatest dimension of the head, they are knitted parallel to the smallest dimension of the head, so that the courses extend vertically, instead of horizontally, of the panty girdle. This enables making of the panty girdle of any desired width by the use of only a 14 inch head, such as a width of 16 or 18 inches by the mere continuance of the knitting process transversely instead of longitudinally of the head.

A still further object of the present invention is to knit a blank for forming a full fashioned garment, which blank is particularly adapted for the making of panty girdles and the like by using only a single blank by a novel method of knitting panel portions in the blank, continuously, but of different threads and without the use of seams, whereby a continuously knit single blank may be joined at its edges to form a tube resulting in the waist portion, which blank may contain an integrally knit central panel portion of less stretchable and softer material, such as Flufion, than the elastic fibers forming the remainder of the garment.

A still further object of the invention is to knit a blank in continuous panel portions having different threads and different stretch characteristics with overlap of the different threads at the boundaries of the panel portions, which overlap is so knitted as to provide stretchability and strength as well as continuity of knitting.

Other objects and advantages will become more apparent from a study of the following description taken with the accompanying drawings wherein:

FIG. 1 is a schematic view showing the method of knitting a full fashioned panel having a central panel portion 13 knitted of different threads than those in the re-

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mainder of the blank, by a method of knitting embodying the present invention;

FIG. 2 shows how the panel of FIG. 1 is brought together just before seaming the edges 2 thereof to form a vertical seam at the rear of the garment in the making of a maternity type panty girdle, the front panel portion 13 being far more stretchable vertically, instead of horizontally;

FIG. 3 is a view similar to FIG. 1 showing a modification of the knitting process for knitting a reverse design of blank;

FIG. 4 shows a still further modification of the knitted blank wherein a central panel portion 16 is more highly reinforced and has more knitted layers than the remainder of the blank; and

FIG. 5 shows a finished panty girdle embodying the blank of FIG. 1 and of a construction which is particularly suitable for expectant mothers.

Referring more particularly to FIG. 1 of the drawings, which shows a single blank of knitted yarns for forming a full fashioned garment, such as a lady's panty girdle, numeral 2 denotes the edge at which knitting of the courses is started, the courses running along lines parallel to edge 2 instead of at right angles thereto as in conventional methods. Conventional methods of knitting courses may be used in knitting the panel, starting at edge 2. To obtain desired stretchability and holding-in power of the garment where most needed, suitable yarns must be selected for knitting different portions. Generally speaking, an elastic synthetic yarn is preferable for providing the needed stretch to the garment. Such yarns may be knit with a course of right twisted yarn alternating with a course of left twisted yarn to provide a somewhat herringbone design of knitting to improve the stretchability, in a well known manner.

I prefer to choose a stretchable, synthetic yarn known in the trade as Vyrene or Spandex with intermediate courses of Flufion or other soft and not very stretchable yarn, alternating, one course Vyrene, right twist 3 (see FIG. 1)—one course Flufion 4, without twist—then one course Vyrene, left twist 5—then repeating this pattern, but at the same time plaiting with another yarn 6, such as texturized nylon, on every course throughout the entire garment. The plaiting or covering with texturized nylon gives the desired finish to the blank, particularly for making panty girdles.

The alternating courses of yarns, that is Vyrene right twist—Flufion—and Vyrene left twist, are continued throughout a portion of the blank, as indicated by arrows A, until line 7 is reached after which additional Vyrene-Flufion courses, indicated by arrows B, travel only up to line 10, whereas the remainder of the horizontal course, as shown by arrows D, is knitted of only Flufion yarns, or other soft yarns to form a relatively soft and only slightly stretchable panel portion 13. There is overlapping of yarns B and D in the intermediate or boundary zone 11, that is, between vertical lines 8 and 10. This selective knitting is continued until the horizontal line 12 is reached, after which there is a resumption of knitting of alternate yarns of Vyrene right twist—Flufion—and Vyrene left twist, as represented by arrows C, which is continued until the top edge of the blank is reached.

For the sake of clarity, the yarn carriers or yarns will be referred to by number. Assume that No. 1 yarn (such as the Vyrene yarn) travels from edge 1 of the blank to line 8 and that No. 2 yarn (such as Flufion) travels from line 10 to edge 9, and No. 3 yarn (Texturized nylon) travels from edge 1 to edge 9. It is understood that after the yarns travel from right to left, the next course will be left to right and so on. It will be readily seen that normally in the overlap zone 11, there will be three layers of yarns, namely Nos. 1, 2, and 3 knitted together result-

ing in excessively tight stitches which are difficult to knit and which form a zone having tightness and no stretch, simulating a piece of tape, which is undesirable and very uncomfortable to the wearer. Zone 11 may be of any desired width, such as 2, 4, 6, 8 etc. needles.

In accordance to the present invention, zone 11 is knitted loosely so as to be stretchable, rather than tightly, and non-stretchable, in the following manner: Assume that the yarns are traveling from right to left and that No. 1 yarn starts at edge 1 and stops at 10, No. 2 yarn starts at 10 and stops at edge 9, and No. 3 yarn starts at edge 1 and stops at edge 9. All this is being done while the needles are the "up" position, which is the first step in the formation of loops. When the course is completed and the needles moved downwardly to the lowest position and the loops are completely formed, No. 1 yarn is then simply carried from line 10 to line 8, while No. 2 and No. 3 yarns remain at edge 9. Due to the fact that the needles are in the low position, No. 1 yarn does not knit in the overlap zone 11, but merely lays straight across this zone (behind the needles) thereby does not become knitted in zone 11. At the end of the course from right to left a new course is started from left to right, whereby yarn No. 1 moves from line 8 to edge 1, No. 2 yarn moves from edge 9 to line 8, and No. 3 yarn moves from edge 9 to edge 1—all with the needles in the "up" position. As the result, yarn No. 1 knits in the overlap zone 11 from line 8 to line 10, No. 2 yarn moves from 9 to 8 stopping there with the needles still in the "up" position. Then at the end of the course when the needles move to the lowest down position, yarn No. 2 moves from 8 to 10 again merely laying the yarn behind the needles, that is, alongside the stitches, so as to not become knitted in the overlap. Thus zone 11 is not tightly knitted and instead is loosely knitted so as to have considerable stretch with strength and continuity of knitting.

FIG. 3 shows variations in the knitting of a blank which is the reverse of that shown in FIG. 1.

FIG. 4 shows a modified form of blank. Panel portion 16 is a reinforced portion which is made heavier by adding an extra yarn over other yarns being used to give holding power where most needed. If desired, run-proof knitting, as illustrated in portions 18 and 18, may be extended throughout the entire blank. A blank, which is the reverse of FIG. 4 (such as FIG. 1 relative to FIG. 3) may be made. The blank of FIG. 4 is for a panty-girdle.

Band 17 of FIG. 4 may be made wider and longer, or shorter and narrower. Run proof knitting may be made either on the panel portion 16 alone or run the full length of the blank—or plain knit in all the blank and run-proof only in portion 18, as desired.

FIG. 2 shows the panel of FIG. 1 and the manner of joining together the edges 2 forming selvages, to be seamed or looped, together to form a cylinder and which seam runs vertically adjacent to the backbone of the wearer, therefore causing no discomfort. It should be particularly noted that the courses of the central panel portion 13 run vertically, therefore the greatest amount of stretch is vertical instead of horizontal. This is particularly suitable in a maternity girdle, such as shown in FIG. 5, which represents the next step or the complete garment made from the blank of FIG. 1 and including an elastic waistband 9, a vertical rear seam 20, elastic leg bands 21 and a crotch portion 22 knit of soft, absorbent yarns.

Instead of using a single blank to make substantially the entire garment, as shown in FIGS. 2 and 5, two blanks, such as those shown in FIGS. 1 and 3 (or two reverses of the design of FIG. 4) may be joined together at the edges to form front and rear panels, respectively, in which

case, however, seams would run vertically along the sides of the finished garment. In this case, the central panel portions 13 and 13a may form the crotch portion of the garment if made into panty form.

Thus it will be seen that I have provided an efficient method of knitting and a greatly improved blank and full fashioned garment made therefrom which enables making garments of any waist size by using a single head of comparatively small width; furthermore, I have provided an intermediate panel portion knit of different yarns from the rest of the garment to give different finish or stretch characteristics, but which is knit continuously without interruption of elasticity of the blank, in spite of knitting of three or more different yarns in a single course, by the expedient of laying instead of knitting yarn across an intermediate zone portion; furthermore, I have provided a novel garment construction, particularly useful for making maternity panty-girdles, which is made essentially of a single blank with an integrally knit intermediate portion which portion has greatest stretch in the vertical direction, where most needed, and wherein only a single vertical seam at the rear is provided to provide a cylindrical form to the blank.

While I have illustrated and described several embodiments of my invention, it will be understood that these are by way of illustration only, and that various changes and modifications may be made within the contemplation of my invention and within the scope of the following claims.

I claim:

1. A knitted maternity panty-girdle comprising a stretchable fabric blank having opposite edges, a seam connecting said opposite edges together vertically at the rear central portion of the panty-girdle to form a body portion, said body portion being stretchable and having courses extending vertically, said girdle blank having a top, front, continuously knit panel portion of stretchable yarn different from and softer than the yarn of said body portion and with courses extending vertically and providing substantially greater stretch in the vertical direction than in the horizontal direction, and an integrally knit boundary zone of overlapping threads from said body portion and from said top front panel portion extending horizontally, substantially centrally of the front portion of said panty-girdle between said body and top, front portions.

2. A panty-girdle as recited in claim 1 wherein said body portion comprises alternating courses of left and right twisted, stretchable synthetic yarns having intermediate courses of untwisted yarn.

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