Dec. 17, 1940. E. C. KENNEDY 2,224,871

GARMENT AND METHOD OF MAKING THE SAME

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Fig. 1

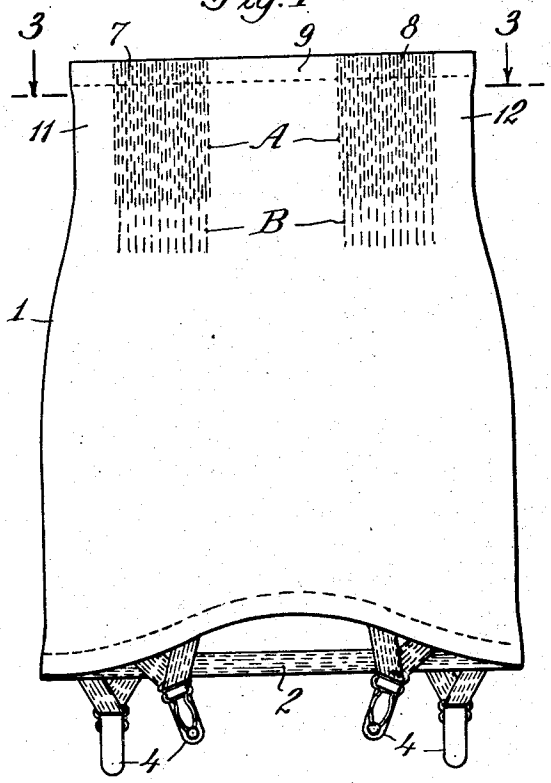

Fig. 2,

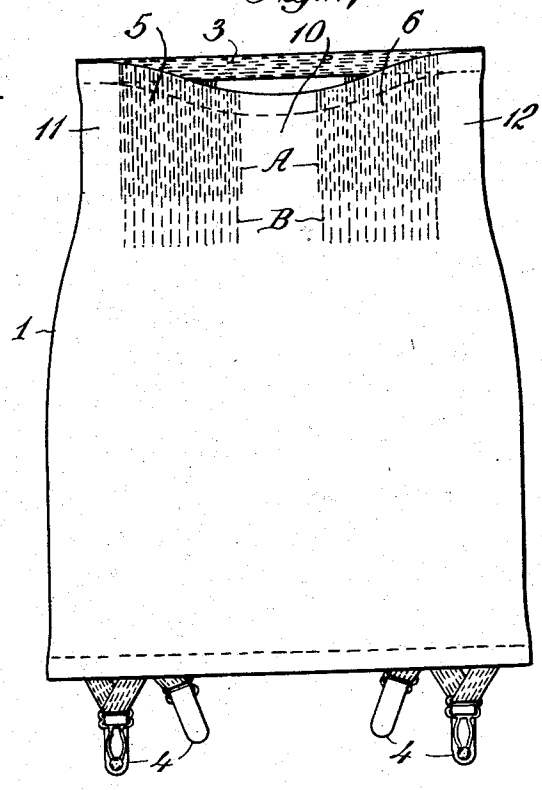

Fig. 3,

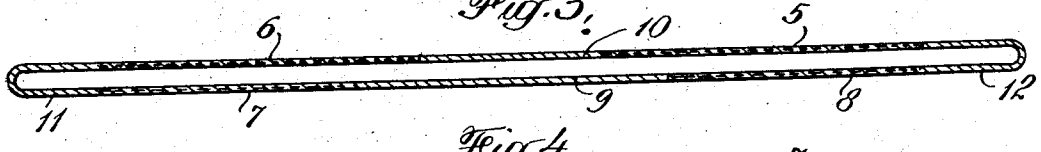

Fig. 4,

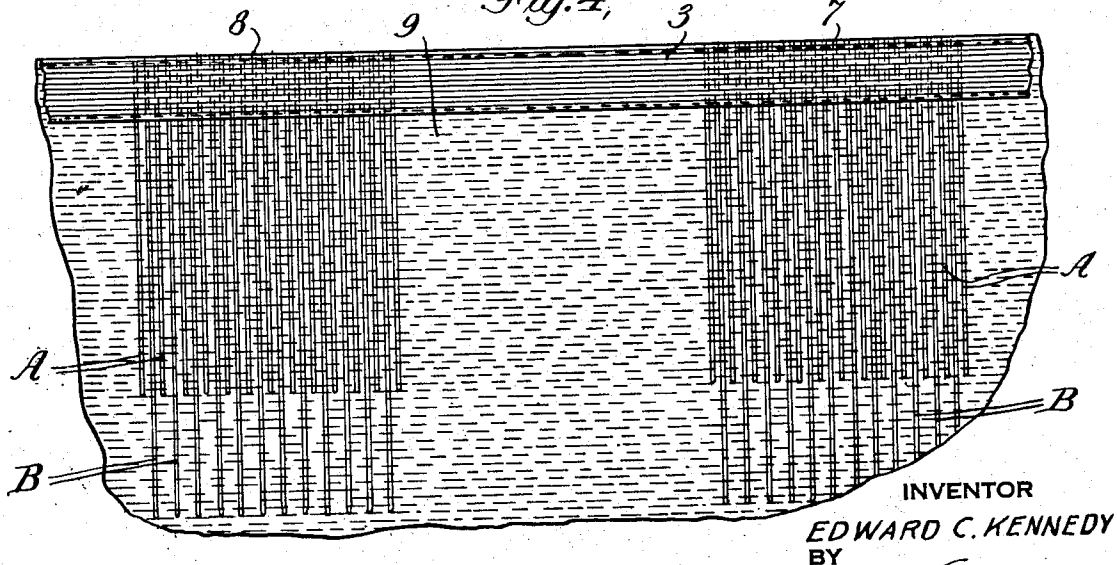

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Fig. 5.

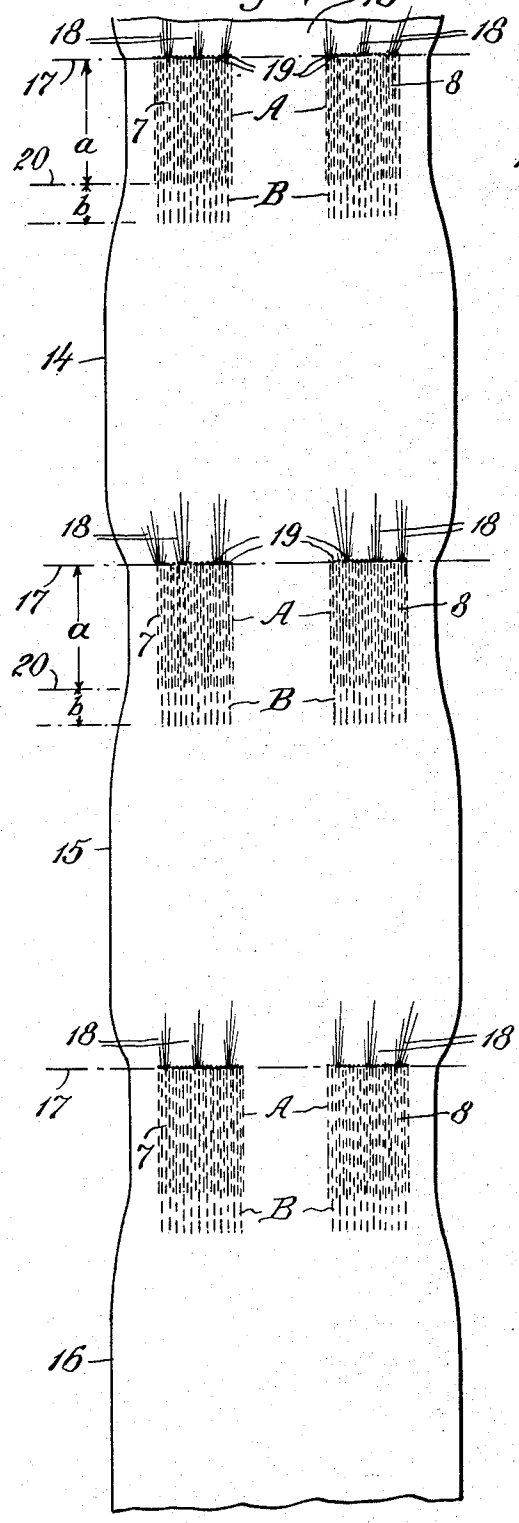
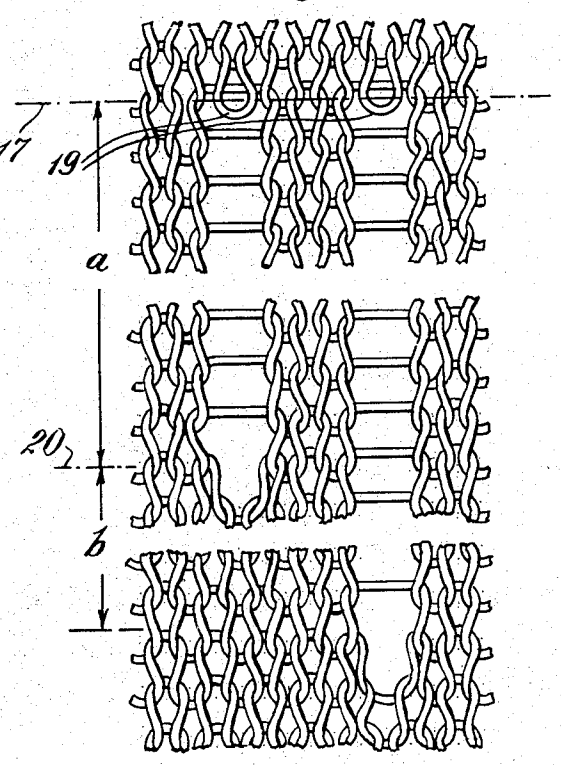


Fig. 6.



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Patented Dec. 17, 1940 2,224,871

UNITED STATES PATENT OFFICE

2,224,871

GARMENT AND METHOD OF MAKING THE SAME

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Application July 11, 1939, Serial No. 283,838

3 Claims. (Cl. 66—176)

This invention relates to garments of the corset type for confining and improving the figure. It particularly relates to a seamless, one-piece, shaped, tubular garment of elastic knit material, to an improved method of fashioning and an improved method of producing such garments.

Heretofore, in knitting garments of this kind, variation in the tension applied to the elastic threads during the knitting of different portions of the garment, or variation in the size of the elastic threads employed, have been resorted to for the purpose of fashioning the garment to the desired shape, and providing for greater compression of the body by certain portions of the garment than by other portions. Also, in making these garments, drop-stitching has been employed either in certain predetermined areas, or continuously around the top of the garment, for the purpose of narrowing the garment at the top and giving it some semblance of shape or fashioning.

These garments, however, were all objectionable for one reason or another. The fashioning of the garments was not all that could be desired, and they were incapable of being knit rapidly, probably for the reason that the drop-stitching was terminated one row at a time, producing a staggered or sloping design along the bottom of the drop-stitching. This design, moreover, was objectionable from the sales standpoint because in the type of garment having the drop-stitching arranged in spaced areas, it produced an unsightly gathering along the lower edges of the drop-stitching areas, and in the type of garment where the drop-stitching was continued throughout the circumference of its upper portion, an undesirable rib effect was produced.

The object of my present invention is to overcome these objections and provide a garment of this sort which is capable of being knit very rapidly, and which can be produced at low cost, and yet is of superior quality.

It is also a feature of the invention to provide a garment of this kind which tends to properly hold the abdomen without the necessity of employing a panel of non-stretchable material.

Further, the invention aims to improve the shape of such garments so that they will more comfortably fit the figure and at the same time improve the lines of the figure.

The present invention will be understood from a consideration of the accompanying drawings, which illustrate, by way of example, one embodiment of the invention in the form of a girdle. In these drawings:

Fig. 1 is a front view of my improved garment;

Fig. 2 is a rear view;

Fig. 3 is a transverse section on line 3—3 of Fig. 1 drawn to an enlarged scale;

Fig. 4 is a fragmentary view drawn to a still larger scale of the upper portion of the garment shown in Fig. 1 looking from the inside;

Fig. 5 is a plan view of a strip of tubular fabric knit in accordance with my invention, containing a plurality of units, each adapted to be severed from the strip to form a garment; and

Fig. 6 is a magnified view of a fragmentary portion of the knit fabric as shown in Fig. 5.

Referring now to these drawings, the girdle 1 of my invention comprises a tubular garment, knit on a circular knitting machine, one-piece from top to bottom and seamless. It is knit with an elastic thread (usually consisting of a rubber core covered with a textile material, such as cotton, rayon or silk). Usually a cotton-covered rubber thread is used, together with a second, or "plating" thread of rayon or silk. The garment is finished along the bottom and top with tapes 2 and 3, and the usual accessories, such as the stocking supporters 4, are attached at the bottom.

The girdle is provided at its upper marginal portion with a plurality of spaced rectangular areas of drop-stitching. Two areas 5 and 6 are provided at the back, and areas 7 and 8 at the front. Drop-stitching areas 7 and 8 at the front are preferably narrower than those at the back, leaving a wide panel 9 of full-bodied fabric between them at the center of the front of the garment. A narrow panel 10 is provided at the center of the back of the garment, and two panels 11 and 12 of approximately the same width as panel 10 at the sides, panel 9 being substantially twice as wide as the other panels. By means of these rectangular areas of drop-stitching which extend downwardly from the top of the garment, the upper portion of the garment is made narrow so as to closely fit the waist, and the wide panel 9 of full bodied fabric tends to improve the shape of the abdomen.

The method of forming the drop-stitching areas 5, 6, 7 and 8 is the same for each area. The areas of drop-stitching are made up of a plurality of closely spaced rows of drop-stitching (Fig. 5) which are divided into two groups comprising alternate and intermediate rows designated respectively by reference characters A and B. Both of these groups extend downwardly from the upper margin of the garment for a predetermined distance depending upon the character of the garment, particularly upon the

distance, if any, which it is desired to have the garment extend above the waistline.

In the finished garment, for example, the rows of drop-stitching comprising group A may extend approximately three inches from the top of the garment in front, although the distance as the fabric is knitted will be more nearly 4½ inches. At this point, however, all of the rows of group A terminate simultaneously. The rows comprising group B, however, are continued downward for about another 1⅛ inches in the finished garment, or 1½ inches in the material as knitted. By abruptly terminating the rows in groups in this manner, each comprising approximately one-half of the total rows of drop-stitching a pleasing outward curve is given to the garment, thereby fashioning the garment to fit neatly over the hips without producing substantial localized excess tension in the elastic threads of the garment.

The diameter of the circular knitting machine upon which the garment is knitted varies with the size of the garment. The machine contains several hundred needles, say, for example, from about 400 to something over 500. In the example of the garment shown in the drawings by way of illustration, the needles which are thrown out of action to form the drop-stitching rows of group A of front areas 7 and 8 are each 13 in number, while the corresponding needles for the rows of group B are 12 in number. Hence in the upper portions of each of these drop-stitching areas a total of 25 needles are taken out of action, these needles being spaced approximately 4 wales apart. In the rear drop-stitching areas 5 and 6, 15 needles form the drop-stitching rows of group A, and 14 group B, making a total of 29 needles for each of these areas.

Referring now to Fig. 5, which serves to illustrate certain of the steps of the method of producing the garment, the tubular fabric is knitted in a continuous strip 13 which is severed, in a manner which will be presently described, into units from which the individual garments are made. In Fig. 5, three of these units 14, 15 and 16 are illustrated. Although Fig. 5 illustrates only the front side of the fabric strip in which the drop-stitching areas 7 and 8 are located, it will be understood that the rear side contains the other drop-stitching areas 5 and 6.

Assuming that the knitting of a previous unit has been completed, the knitting of unit 14 starts at the point indicated by line 17, at which point all of the needles in both groups A and B of all of the four areas 7, 8, 5 and 6 (comprising 108 needles) are thrown out of action simultaneously. This causes an abrupt narrowing of the fabric and a considerable puckering or gathering of the material as indicated at 18. It also leaves a series of free, or unlocked, loops 19 (Fig. 5), one for each needle thrown out of action. Hence there are a total of 108 of these unlocked loops along line 17 at the commencement of the four drop-stitching areas.

The knitting continues with these 108 needles out of action for a distance *a* which, as indicated above, is approximately 4½ inches. At this point corresponding to line 20, all of the needles of group A for each of the four areas, comprising a total of 56 needles, are returned to action simultaneously. Hence, as indicated in Fig. 6, these needles again commence forming stitches and 56 wales are restored to the circumference of the garment distributed among the four drop-stitching areas.

Knitting proceeds from this point, with only the needles of groups B out of action, for a distance indicated by *b* which, as previously stated, is approximately 1½ inches. Then all of these needles, 52 in number, are simultaneously restored to action and the knitting is continued to form the lower portion of unit 14, which completes the knitting cycle. It will be understood that when a sufficient length of material has been knitted, all of the needles of groups A and B will again be thrown abruptly and simultaneously out of action to commence the knitting of the succeeding unit 15. By restoring the needles to action in groups simultaneously, unsightly gathering at the bottoms of the rectangular areas of drop-stitching is avoided.

In making up the individual garments from the continuous strip of material illustrated in Fig. 5, the strip is severed along the lines 17 at the points where the unlocked loops 19 are located. The severing of the material along line 17 has two effects. First, it permits the material forming the lower portion of the previous garment to expand, eliminating the gathering 18 so as to make the lower portion of the garment substantially circular in form. In the second place, it leaves the unlocked loops 19 adjacent a cut edge so that they may be firmly secured in place to prevent causing runs, by means of the finishing tapes 2 and 3.

By means of my present invention there has been provided a seamless one-piece girdle made of knit elastic material which is of extremely fine texture and which still can be knit with great rapidity so as to lower the cost of production to a remarkable extent, this rapid knitting being permitted by controlling the needles forming the drop-stitching areas in groups comprising substantial quantities of needles each. Thus the needles of groups A and B are taken out of action all at the same time and then at the desired point the needles of group A are all returned to action together; later on in like manner the needles of groups B are returned to action simultaneously, thereby forming rectangular areas of drop-stitching spaced around the upper marginal portion of the garment.

By the improved method of fashioning the garment through the employment of these spaced areas of such rectangular drop-stitching, the garment is given a more natural shape. By providing the wide panel of full-bodied fabric at the front the garment tends to hold the abdomen flat without adding a panel of unstretchable material. This can be added, however, if desired.

The fabric of which the garment is made is knit under substantially uniform tension from one end of the garment to the other, and the improved fashioning provides for a maintenance of such uniform tension to a remarkable extent even after the garment is in place upon the wearer.

It will be understood that changes may be made in the construction and procedure described above without departing from the spirit of the invention as defined in the appended claims.

I claim:

1. A seamless, one-piece, shaped, tubular garment formed of knit elastic material under substantially uniform tension throughout and having areas of drop-stitching arranged in spaced relation around the upper portion thereof extending downwardly from the upper margin of

the garment, said areas each comprising two groups of rows of drop stitching distributed throughout said areas, the rows of each group being of equal length and the rows of one group terminating above the bottom of the rows of the other group, thereby fashioning the garment to the hips.

2. A seamless, one-piece, shaped, tubular garment formed of knit elastic material under substantially uniform tension throughout and having areas of drop-stitching spaced around its upper portion in such manner as to leave panels of full-bodied fabric at the sides, said drop-stitching areas extending downwardly from the upper margin of the garment and each comprising two groups of equal length rows of drop stitching, one group containing the alternate rows of drop stitching and the other group the intermediate rows, the alternate rows terminating above the bottom of the intermediate rows, thereby fashioning the garment to the hips.

3. The method of fashioning a tubular garment during knitting which comprises dropping stitches in groups spaced around the circumference of the garment and knitting circumferentially spaced areas of drop-stitching separated by areas of full-bodied material to form the waist portion of the garment, simultaneously picking up alternate stitches of those dropped in each of said drop stitch areas, continuing the knitting of said alternate areas of drop-stitching and full-bodied fabric, simultaneously picking up the remainder of the stitches dropped, thereby shaping the garment to the hips, and then knitting circumferentially continuous full bodied fabric to form the lower portion of the garment.

EDWARD C. KENNEDY.