May 6, 1958 J. GIFT 2,833,134

UNDERGARMENTS

Filed May 16, 1956 2 Sheets-Sheet 1

FIG. 8.

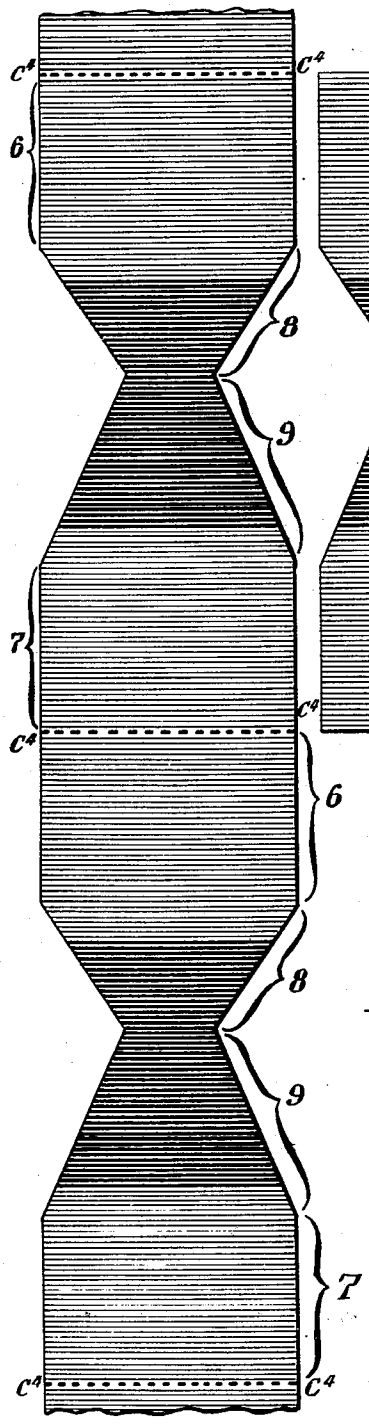


FIG. 5.

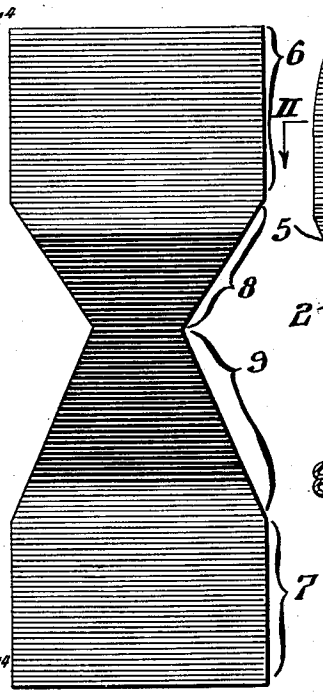


FIG. 1.

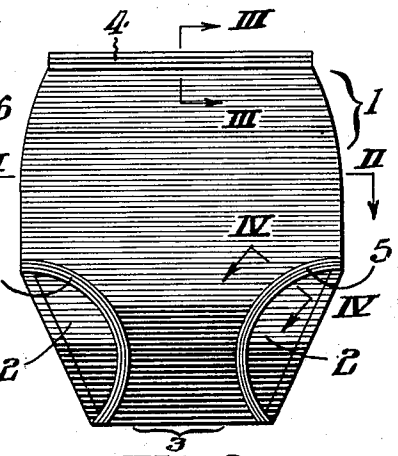


FIG. 2.



FIG. 3.

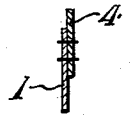


FIG. 4.

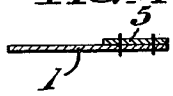
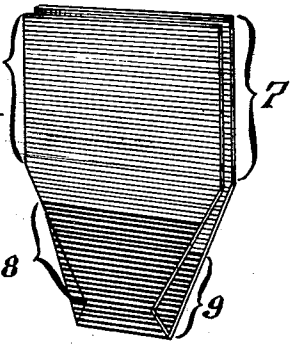


FIG. 6.



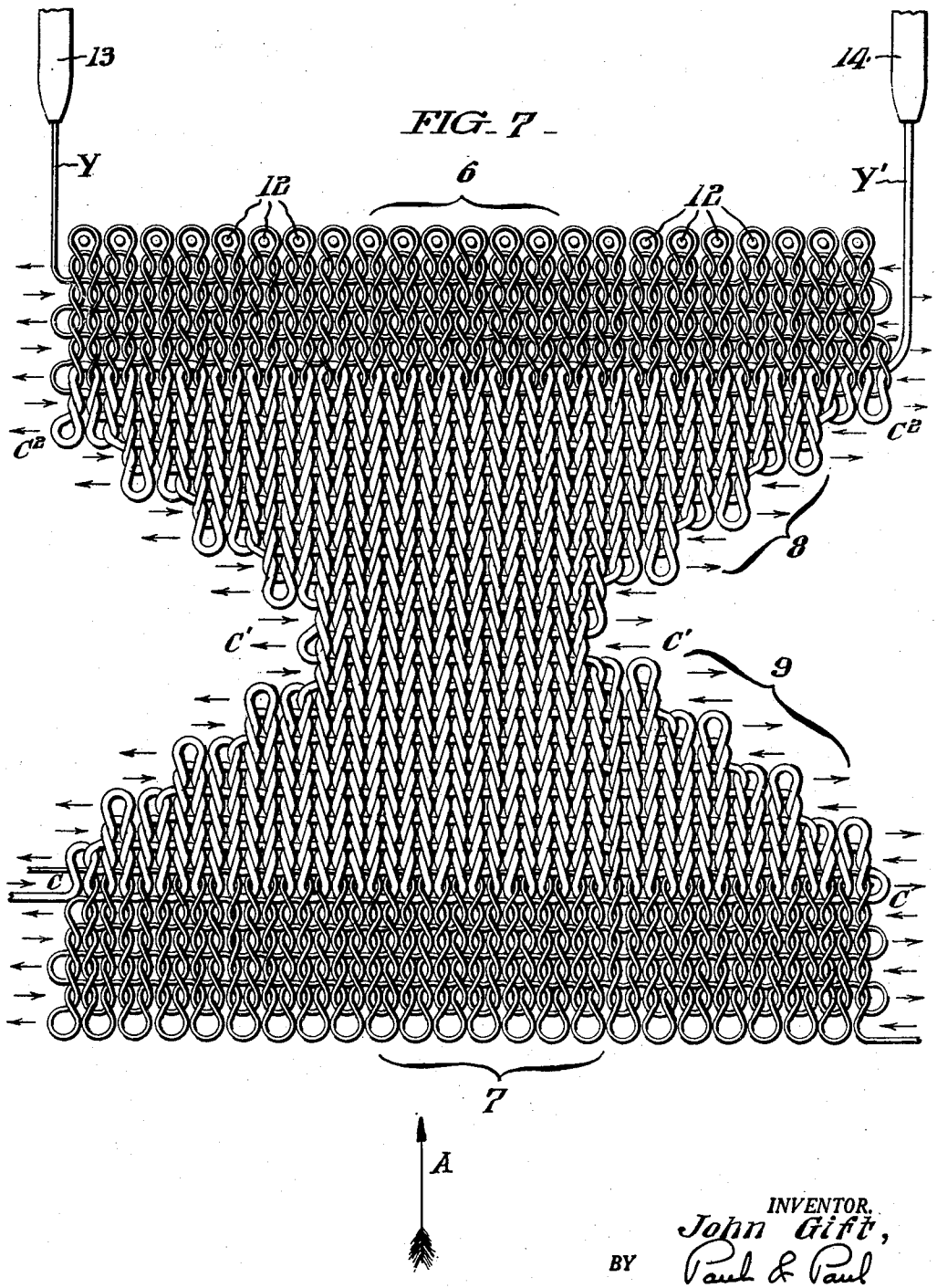
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May 6, 1958 J. GIFT 2,833,134

UNDERGARMENTS

Filed May 16, 1956 2 Sheets-Sheet 2

FIG. 7



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2,833,134

UNDERGARMENTS

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Application May 16, 1956, Serial No. 585,261

3 Claims. (Cl. 66—177)

This invention relates to undergarments. More particularly, it is concerned with undergarments of the bifurcate type ordinarily known as "panties."

My invention has for its chief aims to provide an improved undergarment of the kind referred to which is snug fitting and yet allows free leg movement without causing skin chafing which can be produced more economically than heretofore for example from so called "stretch" yarn, i. e. super twisted yarns of nylon, Dacron, Orlon and the like. How the foregoing and other objects and attendant advantages are realized in practice will appear from the following detailed description of the attached drawings, wherein:

Fig. 1 shows an undergarment of the panty type conveniently embodying my invention;

Figs. 2, 3 and 4 are sectional views taken as indicated respectively by the angled arrows II—II, III—III and IV—IV in Fig. 1;

Fig. 5 is a view showing a plain knitted flat fashioned blank, produced in accordance with my invention, from which the panty is formed;

Fig. 6 is a perspective view showing how the blank is initially folded upon itself in preparation for seaming to complete the panty;

Fig. 7 is a fragmentary diagrammatic view showing how the blank is fashioned on a straight bar knitting machine in accordance with my invention; and

Fig. 8 is a view showing how the blanks may be formed in succession as string work on such a knitting machine.

As illustrated in Fig. 1, the panty of my invention has a body portion **1** with frontal leg openings **2** at opposite sides of a narrower crotch portion **3**. As later on described herein, the fabric of the panty is plain knitted preferably from stretch yarn of the kinds hereinbefore mentioned, and may be finished around its top edge and around the edges of its leg openings **2** with elastic tapes **4** and **5** by stitching as indicated conventionally in Figs. 3 and 4 respectively. The panty is formed, in accordance with my invention, from an elongated blank such as shown in Fig. 5 capable of production upon a straight bar knitting machine of the well-known "cotton" type, said blank being characterized by having parallel edged end portions **6** and **7** which are uniform both as to length and width, and intermediate portions **8** and **9**. It is to be noted that these intermediate portions differ somewhat in length and taper slightly at different angles toward each other from the end portions **6** and **7** and that they are devoid of fashioning marks. The light line shaded area of the blank is knitted from a yarn of relatively fine denier, and the intermediate dark line shaded area from heavier yarn. The panty is made up by folding the blank of Fig. 5 upon itself as shown in Fig. 6 about its medial transverse line, with the back side of the fabric outermost, to bring the end and side edges of the portions **6** and **7** into coincidence. With this accomplished, the meeting side edges of the portions **6** and **7** are united by sewing as indicated at **10** in Fig. 2. The elastic tapes

4 and **5** next applied likewise by sewing, about the edges of the leg holes **2** as instanced in Fig. 4. Finally, the now finished panty is reversed, i. e., turned to bring the inside face of the fabric to the outside and the seaming to the inside as at **10** in Fig. 2. Due to the difference in taper and length of the areas **8** and **9** of the blank, leg holes **2** are brought to the front of the finished panty as shown in Fig. 1.

Referring now to diagrammatic Fig. 7 which illustrates how the fabric for the blank is fashioned on the knitting machine, the needles of the latter being designated at **12** and the two carriers **13** and **14** which are employed respectively to feed the fine denier yarn and the heavier yarn designated Y and Y′ respectively. The knitting is effected in the direction indicated by the arrow A. Throughout the knitting, the shaping of the blank is accomplished solely by control of the traverse of the yarn carrier without the use of any narrowing points. In knitting the parallel edged end portion **7** of the blank, the carrier **13** for the fine denier yarn Y is reciprocated through a fixed distance each time for the production of the required length of fabric to a course C—C. The carrier **13** is then removed from operation, and the carrier **14** is substituted and reciprocated to feed the heavier yarn Y′ in the knitting of the succeeding tapered area **9** of the blank, during which the traverse of the carrier **14** is progressively reduced by two needles each time for example at intervals to narrow the fabric until a course C′—C′ is reached. The procedure is then reversed and the traverse of the carrier **14** is progressively increased at recurrent intervals to form the portion **8** of the blank to the course C^2—C^2. At the course C^2—C^2, with the carrier **14** withdrawn from operation and the carrier **13** substituted, the latter is thereafter again traversed through a fixed distance for a sufficient time to form from the yarn Y the end portion **6** of length equal to that of the portion **7**. Although not so illustrated, it is to be understood that the widening of the fabric in the area **8** is effected in practice at a somewhat faster rate than the narrowing in the area **9**, so that the length of the area **9** will be relatively longer than as the area **8** in the completed blank as previously pointed out. Although the edges of the narrow and wide areas **8** and **9** of the blank are "raw," that is of unanchored loops which would ordinarily ravel, these loops become twisted due to the inherent nature of the stretch yarn to curl or snarl, with the result that these edges remain amply stable against deformation in handling the blank as it is folded and seamed in a sewing machine during the make up of the panty. Since the blank is knitted throughout without the use of narrowing points, the fabric is entirely devoid of fashioning marks such as ordinarily appear when narrowing points are used.

While the blanks may be individually knitted and pressed off the machine, for the purposes of greater economy in production, I knit them in succession as string work as shown in Fig. 8 and incidentally set them apart either by loosely knit courses, or by courses knitted from a contrastingly colored yarn as at C^4—C^4 to serve as guide markings in cutting the individual blanks from the string. Moreover, while in Fig. 7 the heavy yarn Y is shown as being used throughout the knitting of the narrowed and widened areas **9** and **8** of the blank, it may be used only in portions of these areas as shown in Fig. 5.

From the foregoing it will be seen that, in accordance with the improved method of my invention, it is possible to produce the panty blanks in quantity in a minimum of time and at considerably less expense as compared with methods heretofore employed in the production of similar articles of apparel.

Having thus described my invention, I claim:

1. As a new article of manufacture a panty formed

from a flat fashioned knitted blank of stretch yarn having end portions with parallel side edges and an intermediate narrowed and widened crotch portion devoid of fashioning marks, the blank being doubled upon itself about a transverse line, the coincident side edges of the end portions being united by sewing with provision of leg openings at opposite sides of the panty, the top edge of the panty and the edges of said openings being finished with elastic tape, the end portions being knitted from a light stretch yarn, and the narrowed and widened crotch region being knitted from a heavier stretch yarn.

2. As a new article of manufacture, a panty formed from a flat fashioned knitted blank of stretch yarn having end portions with substantially parallel side edges and an intermediate crotch portion having narrowed and widened areas differing in length and devoid of fashioning marks, the blank being doubled upon itself about a transverse line centrally between its ends, the coincident segments of the side edges of the end portions being united by sewing with incidental provision of frontal leg openings at opposite sides of the panty, the top edge and the edges of the leg openings being finished with elastic tape, the end portions being knitted from a light stretch yarn, and the crotch portion being knitted from a heavier stretch yarn.

3. As a new article of manufacture, a panty formed from a flat fashioned knitted blank of stretch yarn having end portions with substantially parallel side edges and an intermediate crotch portion having narrowed and widened areas differing in length and devoid of fashioning marks, the blank being doubled upon itself about a transverse line centrally between its ends, the coincident segments of the side edges of the end portions being united by sewing with incidental provision of frontal leg openings at opposite sides of the panty, the top edge and the edges of the leg openings being finished with elastic tape, the end portions being knitted from a relatively light stretch yarn, and at least some of the crotch portion being knitted from a heavier stretch yarn.

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