TOE STRUCTURE FOR FULL-FASHIONED HOSIERY

Fig. 1

Fig. 2

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This invention relates to full-fashioned hosiery and more especially to an improved toe structure therefor.

In order to produce a stocking design which is of very pleasing appearance, when worn by women having open-toed shoes, a rectilinear or diamond-shaped area has been provided at the foremost portion of the toe which was of a contrasting shade or color to that of the adjacent toe and body portions of the stocking. Therefore, the rectilinear or diamond-shaped area has been formed by dyeing or printing the area on the toe of the stocking or by placing a reinforcing yarn of contrasting color to the yarn employed in the foot and body portions of the stocking at the toe of the stocking to produce the rectilinear or diamond-shaped area. The forming of rectilinear or diamond-shaped areas in the toe of a stocking by dyeing or stamping the area has necessarily increased the cost of manufacture of the stocking and the forming of such an area in the toe of a stocking by placing an ornamental yarn of different color or shade over the body yarn has been objectionable due to the shadow effect caused by the body yarn being knit in the same wales and courses as the ornamental yarn, particularly when the stockings are made from relatively fine yarns, such as nylon or silk. It is practically impossible to control plating of one yarn over another because either yarn may be knitted on the outside of the other when knitting on full fashioned machines of the type currently available.

It is therefore an object of this invention to provide a rectilinear or diamond-shaped area at the toe of a full-fashioned stocking by knitting said area from a yarn independently of the yarn or yarns from which adjacent portions of the stocking are knit and interknitting the yarn in the adjacent portions of the stocking with the yarn employed in the rectilinear or diamond-shaped area in overlapping relation at the juncture of the rectilinear or diamond-shaped area with the adjacent portions of the stocking.

Thus the stocking may be economically produced and the rectilinear or diamond-shaped area in the toe of the stocking will be of a clear contrasting color to the adjacent portions of the stocking and devoid of any shadow effect.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds, when taken in connection with the accompanying drawings, in which—

Figure 1 is a view of the heel, instep, sole and toe portions of a stocking blank from which the improved stocking is formed and being of the type wherein the toe of the stocking is subsequently seamed rather than being looped:

Figure 2 is a side elevation of the seamed stocking, as formed from the stocking blank shown in Figure 1, omitting the leg and welt portions of the stocking.

Figure 3 is a greatly enlarged illustration showing the arrangement of the stitches at the juncture of the diamond-shaped area at the toe of the stocking with the instep of the stocking.

Referring more specifically to the drawings, the numeral 20 indicates the instep of the body portion of a full fashioned stocking and which is knit from a body yarn. The stocking also comprises high spliced portions 14 and 12 which extend downwardly in Figures 1 and 2 and are widened to form heel tabs 13 and 15. The high spliced portions 14 and 12 and heel tabs 13 and 15 are usually knit from a reinforcing yarn plated over the body yarn and wherein the courses formed from the body yarn may extend from the selvage to selavage of the high spliced portions 14 and 12 and the heel tabs 13 and 15.

It is preferable, in the present instance, that the high spliced portions 14 and 12 and the heel tabs 13 and 14 are knit from an independent yarn of contrasting color to that of the yarn employed in knitting the body or instep portion 19 of the stocking. In the latter instance, it is evident that the yarn employed in knitting the high spliced portions 14 and 12 and the heel tabs 13 and 14 would be interknitted in overlapping relation with the body yarn at its juncture with the instep portion 19 of the stocking.

The fabric is then narrowed to form sole portions 18 and 16 which may be knit from a reinforcing yarn plated over the body yarn but are preferably knit from a relatively heavy yarn, such as cotton yarn, independently of the body yarn, and the yarn employed in knitting the sole portions 16 and 18 is knit in overlapping relation to the body yarn for a few wales at the junctures of the instep 10 and the sole portions 16 and 18 of the stocking.

The fabric is then narrowed at opposite selvages in the usual manner to form forefoot portions 47 and 48 which are preferably, but not necessarily, knit from the same yarn employed in knitting the sole portions 18 and 16. The usual parts of a full fashioned stocking have heretofore been described and it is with these parts that the improved toe structure is associated.
which may be termed an intermediate toe portion of the stocking, is knit from a different yarn from the adjacent outer toe portions 17 and 18, this different yarn preferably being of a contrasting shade or color to that of the yarn employed in the sole and outer toe portions 15, 16 and 17, 18 and also preferably being of a contrasting color to that of the yarn employed in knitting the instep 19. It is evident that the yarn employed in knitting the intermediate toe portion 21 may be of the same color as either the instep portion 10 or the sole portions 15 and 16, or both. However, since the object of the invention is to provide the intermediate toe portion 21 of a clear contrasting color to that of adjacent portions of the stocking, the yarn employed in knitting the portion 21 should be of a contrasting color to that of the yarn employed in knitting adjacent portions of the stocking.

In order to enhance the margin of the upper portion of the intermediate toe portion 21, it is preferable that the proximate portions of the sole portions 15 and 16 are widened so their proximate edges are disposed in close proximity to each other at the edge of the diamond-shaped area 21. It is preferable that the sole portions 15 and 16 and the outer toe portions 17 and 18 be knit from a yarn independently of the yarn employed in knitting the instep portion 10 of the stocking, the enlarged fragmentary view of the stocking shown in Figure 3 shows the adjacent areas 15, 16 and 17, 18 knit from independent yarns. However, it is evident that the body yarn or yarns employed in knitting the instep portion 10 may extend into the areas 15 and 16 and 17 and 18 and be knit with the yarns employed in knitting all three of the areas 15, 16 and 17, 18 being knit in overlapping relation in the sole portions 15 and 16.

For purposes of description, the yarn employed in knitting the instep portion 10 shall be termed hereinafter as a body yarn 10a, the yarns employed in knitting the sole portions 15 and 16 shall be termed hereinafter as a first and second sole yarns 15a and 16a respectively, and the yarn employed in knitting the intermediate toe portion 21 shall hereinafter be termed as an ornamental yarn 21a.

Since the uppermost point of the diamond-shaped area 21 is located at the center of the space midway between the selvages of the stocking blank shown in Figure 1, this centermost point of the stocking blank is shown as a dividing wale D in Figure 3. Those wales shown in Figure 3 disposed to the right of the dividing wale D are indicated at W-1 through W-10 and the wales shown disposed to the left of the dividing wale D are indicated at W-1’ through W-9’. The courses shown in Figure 3 are indicated at C-1 through C-19.

It will be noted in Figure 3 that the widening of the sole portions 15 and 16 is formed by knitting inwardly from opposite selvages to given wales, such as the wales W-5 and W-9 for a predetermined number of courses, there being four courses shown in Figure 3, such as the courses C-2, C-3, C-4, C-5, and knitting from the body yarn 10a between the adjacent edges of the courses formed from the yarns 15a and 16a, overlapping the yarns 15a and 16a at one side of the instep portion 10 and overlapping the yarns 15a and 16a at the other side of the instep portion 10 for approximately four wales. Another group of courses is then knit wherein the areas 15 and 16 are widened by two wales and the width of the instep portion 10 is decreased by two wales, accordingly.

Now, as the courses approach the apex of the diamond-shaped area 21, the terminal loops at the inner ends of the courses formed in knitting the sole portions 15 and 16 are spaced substantially from the dividing wale D and are shown in Figure 3 as being spaced four wales on each side of the dividing wale D. Thus, the body yarn 10a is knit in overlapping relation with the sole yarns 15a and 16a in the adjacent portions of courses C-9 through C-13 and the sole yarns 15a and 16a are knit in overlapping relation at any time during the knitting of the stocking.

Now, in order to securely anchor the stitches formed from the ornamental yarn 21a with the stitches formed from the body yarn 10a, the ornamental yarn 21a is knit simultaneously with the body yarn 10a in both the courses C-12 and C-13 throughout the length of the portion of the courses formed by the latter yarns. In the course C-14 and subsequent courses, only the ornamental yarn 21a is knit in the wales W-1 through W-2’ while the portions 15a and 16a are narrowed by decreasing the number of wales in which the yarns 15a and 16a are knit from course to course relative to the centermost or dividing wale D. Of course, as each course is knit, the stitches formed from the yarns 15a and 16a are knit in overlapping relation to stitches formed from the ornamental yarn 21a for a few wales at the junctures of the areas 15, 21 and 16, 21.

Thus, the rectilinear or diamond-shaped intermediate toe portion 21 is knit from yarn independent of the yarns employed in knitting the instep 10 and the sole portions 15 and 16.

The lower portion of the rectilinear or diamond-shaped intermediate toe portion 21 is knit in a similar manner to that in which the upper portion is knit, as shown in Figure 3, with the exception that the number of loops formed from the ornamental yarn 21a, employed in knitting the diamond-shaped area 21, decrease from course to course from the widest portion of the intermediate toe portion 21, while the number of loops formed from the yarns 15a and 16a in the outer toe portions 17 and 18 increase relative to the centermost wale from course to course until the rectilinear or diamond-shaped area 21 is formed. It will be noted that, in this instance, a toe seaming tab 22 is formed at the juncture of the outer toe portions 17 and 18 at the foremost point of the stocking and, although this seaming tab does not necessarily constitute a part of the present invention, it may be formed either by knitting all three of the yarns 15a, 16a and 21a in overlapping relation while narrowing or the uniform narrowing of the yarns or the lower portion of the rectilinear or diamond-shaped area may continue down to a point and only the yarns 15a and...
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16a knitted in overlapping relation to form the seaming tab 22.

It is evident that, after the blank has been formed in the manner described and as shown in Figure 1, the selvages of the blank are then seamed in the usual manner to form the stocking substantially as shown in Figure 2.

It is thus seen that I have provided an improved toe structure for full fashioned stockings wherein a rectilinear or diamond-shaped area is provided at the center of the toe portion of the stocking and is knitted from a yarn independently of the yarn employed in knitting the adjacent portions of the stocking, such as the outer toe portions 17 and 18 and the instep portion 10. Thus, when the ornamental yarn 21a is of a different or contrasting color to the yarn employed in knitting the adjacent portions of the stocking there is no yarn interknit with the yarn from which the rectilinear or diamond-shaped area 21 is formed to cause a cloudy appearance in the area 21.

Also, the improved toe structure is such that no changes are necessary in the usual type of knitting machines and the stockings may be produced more economically relative to stockings which have heretofore been provided with an area similar to the area 21 in the toe of the stocking, by means other than knitting the area, such as by stamping, dyeing or by the use of decalcomanias or other means.

In the drawings and specification there has been set forth a preferred embodiment of the invention and, although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being defined in the claims.

I claim:
In a full fashioned stocking having sole and outer toe portions each side thereof and the sole and outer toe portions at each side of the stockings being knit from a separate yarn, a diamond-shaped area knit from a yarn independently of the yarns employed in knitting the sole and outer toe portions and being disposed at the foremost point of the toe of the stocking between the sole and toe portions, said yarn of the diamond-shaped area including a few wales in its course at its end furthest from the point of the toe, the number of wales in subsequent courses being increased either side of a given wale from course to course to a predetermined point and then being decreased from course to course to the foremost point of the stocking, the courses in the diamond-shaped area being disposed in the same planes as courses in the sole and outer toe portions of the stocking, the number of wales in the sole portions being decreased from course to course relative to said given wale to said predetermined point and the number of wales in the outer toe portions being increased from course to course relative to said given wale to the foremost point of the toe of the stocking, and terminal loops of the courses formed in the sole and outer toe portions of the stocking being interknit with the terminal loops in the corresponding courses of the diamond-shaped area.

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