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STOCKING WITH ELASTIC AREAS

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6 Claims. (Cl. 66—178)

This application is a continuation in part of my co-pending application Serial No. 42,281, filed September 26, 1935 and of my application Serial No. 753,811, filed November 20, 1934.

The invention relates to a knitted sock or stocking made of inelastic yarn such as silk, cotton, rayon or the like, and characterized by having certain areas in which an elastic yarn is knitted in with the inelastic yarn for special purposes.

It is an object of the invention to provide a stocking which will present a slightly appearance but which will be adapted to provide extra support for the arch of the foot so as to tend to prevent "failing arches" and to achieve other beneficial results.

According to the invention, I provide a stocking or the like having a front portion knitted in the customary manner of inelastic yarn so that the stocking for the most part presents the customary appearance. For arch-supporting purposes, I knit into a substantial area of the sole portion of the stocking an additional yarn consisting of a very fine filament of rubber having a covering of cotton, silk, rayon or the like. Elastic yarns of this kind can now be obtained in sizes small enough to be knitted by the needles of knitting machines regularly used in the manufacture of stockings, socks and the like. The elastic yarn is preferably knitted in with the inelastic yarn in designated areas after the manner of a reinforcing yarn. Thus, if desired, the elastic yarn may be knitted with the inelastic yarn in every stitch in such areas, or, if less bulk is desired in such areas, the elastic yarn may be knitted into certain stitches of the inelastic yarn and floated past intervening stitches, or the elastic yarn may be knitted into selected courses of loops. Knitting elastic yarn with the inelastic yarn in a substantial portion of the sole of a stocking results in an arch-supporting effect without detracting from the appearance of the stocking when worn.

Additional support for the arch may be obtained by extending the elastic area so as to encircle the heel pocket. This in effect provides an elastic band engaging the tendon of the wearer above the heel and extending down to the sole area on both sides of the heel, thus pulling upwardly on the sole area, especially the portion thereof adjacent to the heel pocket.

If desired, the elastic area above the heel at the rear of the stocking may be extended, preferably in a relatively narrow band, up the back or seam of the stocking. If a garter effect is desired at the top of the stocking, this band may be widened at the top of the stocking into an area of substantial circumferential dimension to provide circumferential tension at the top of the stocking and thus to obviate the need for a separate garter.

Other advantageous features of the invention will be apparent to one skilled in the art from the description thereof which follows and from the illustration thereof on the drawing of which Figure 1 is a view of a stocking embodying the invention.

Figures 2 and 3 are fragmentary elevations of stockings having differently arranged elastic areas.

Figure 4 is a diagrammatic showing of one manner of knitting elastic yarn with the inelastic yarn.

Figure 5 is a diagrammatic showing of a different way of knitting elastic yarn with the inelastic yarn.

In Figure 1 is illustrated a stocking 10 made of silk, cotton, rayon or other substantially inelastic yarn and having the usual toe pocket 12 and heel pocket 14. According to the invention, into the sole portion 16, or a substantial part of it, is knitted an elastic yarn with the inelastic yarn. The elastic yarn, being formed into loops by the knitting needles, results in an area of knitted fabric which has tension in two directions and which exerts a supporting force on the instep of the foot, tending to prevent falling of the arch of the foot. The elastic yarn also adds bulk to the area into which it is knitted, thus providing a relatively soft cushion for the bottom of the foot.

If desired, an additional elastic area 18 may be provided immediately above and contiguous to the heel pocket 14, this area being preferably connected to the sole area 16 by connecting areas 20 on either side of the heel pocket. In such case, the heel pocket is entirely surrounded by elastic fabric so that the areas 18 and 20 form a loop which engages the tendon of the wearer above the heel and exerts a supporting force on the area 16, particularly that portion of the area which is adjacent to the heel pocket 14 and thus comes immediately beneath the cuneiform bone which is the keystone of the bony arch structure of the foot. The area 18 incidentally ensures also a snug fit of the stocking around the ankle.

If desired, a relatively narrow elastic area 22 may extend up the back of the stocking and may be disposed on both sides of the seam if the stocking is seamed. This area is adapted to improve the fit of the stocking by providing an
elastic area to take up any slack which might otherwise result in looseness of fit at any portion of the stocking leg. At the top of the stocking, a wider area may be provided, this area being adapted to provide enough circumferential tension to act as a hose supporter and to obviate the use of an encircling garter or supporter of any other type.

Figure 2 illustrates a stocking wherein the sole area 16 is connected by connecting areas 20 to a heel area 28 somewhat similar to the area 18 but having no seam area 22 extending up therefrom.

Figure 3 illustrates another embodiment of the invention, comprising a sole area 38 which is somewhat wider than the sole area 16 and is connected to a heel area 32 by connecting areas 34, the heel area being shown as narrowing to a point.

It is evident from the illustrations on the drawing that the stocking embodying the invention presents substantially the customary appearance, such stocking having no elastic reinforcing yarn in the front portion thereof from top to toe, although I would not deem it a departure from the invention to supply a stocking having elastic area encircling the top of the stocking. The entire stocking is knitted of inelastic thread, the elastic thread being added only to such portions thereof as form the elastic areas. If desired, in the elastic areas the elastic reinforcing yarn may be knitted into every stitch of the inelastic yarn. This results in a comparatively bulky fabric owing to the comparative bulk of the elastic yarn. If less bulk is desired, the elastic yarn in the elastic areas may be knitted into alternate courses or into every third or fourth course, as desired. For example, in Figure 4 is shown a diagrammatic view of elastic yarn 40 knitted in the usual manner, there being added to alternate courses thereof an elastic yarn 42. Obviously, two or more courses can be skipped each time instead of the single courses skipped as shown in Figure 4.

Figure 5 illustrates another way of reducing the bulk of the elastic areas. As therein shown, the elastic yarn is knitted into every course but loops are formed only with alternate loops of the inelastic yarn 48. As shown, the stitches including the elastic yarn are formed in wales alternating with wales past which the elastic yarn is floated. There may be two or more spacing wales between successive wales containing elastic yarn stitches, if desired. Or, if desired, the stitches including the elastic yarn may staggered in successive courses so that all of the wales may contain loops of elastic yarn.

Stockings embodying the invention may be knitted upon circular machines or upon flat machines, the elastic yarn being introduced in the same manner as reinforcing yarns are customarily introduced. The variations illustrated in Figures 4 and 5 may be obtained by suitable control of the feeding finger through which the elastic yarn is supplied or by the control of individual knitting needles, or both.

It is evident that various modifications and changes may be made in the particular embodiments of the invention herein shown and described without departing from the spirit or scope of the invention as defined in the following claims.

I claim:

1. A stocking or the like knitted of inelastic yarn, said stocking having an arch-supporting area in which an elastic yarn is knitted into certain of the stitches of inelastic yarn, said area comprising a substantial portion of the sole of the stocking and entirely encircling the heel pocket, the front of the ankle and foot portions of said stocking having no elastic yarn therein.

2. A stocking or the like knitted of inelastic yarn, said stocking having limited areas in which an elastic yarn is knitted in with the inelastic yarn, said areas consisting of a substantial portion of the sole, an area immediately above the heel pocket, and areas connecting said sole and heel areas to encircle the heel pocket, the front of the ankle and foot portions of the stocking having an elastic yarn therein.

3. A stocking or the like knitted of inelastic yarn, said stocking having an area in which elastic yarn is knitted into spaced stitches of the inelastic yarn and floated past the intervening stitches, said area including a substantial portion of the sole of the stocking and entirely surrounding the heel pocket, the front of the ankle and foot portions of said stocking having no elastic yarn therein.

4. A stocking or the like knitted of inelastic yarn, said stocking having an area in which elastic yarn is knitted in with the inelastic yarn, said area extending up the back of the stocking from the heel pocket to the top and comprising a narrow intermediate portion and wider portions adjacent to the heel pocket and top, the front of said stocking from top to toe having no elastic yarn therein.

5. A stocking or the like knitted of inelastic yarn, said stocking having an area in which elastic yarn is knitted in with the inelastic yarn, said area comprising a substantial portion of the sole and entirely encircling the heel pocket, said area also extending up the back of the stocking to the top thereof and widening near the top, the front of said stocking from top to toe having no elastic yarn therein.

6. A stocking or the like knitted of inelastic yarn, said stocking having connected areas in which an elastic yarn is knitted in with the inelastic yarn, one said area comprising a portion of the sole of the stocking, another said area being at the rear of the upper portion of the stocking, the front of said stocking having no elastic yarn therein.

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