June 14, 1966 S. I. BURD 3,255,613

STOCKING

Filed June 28, 1963

FIG. 1

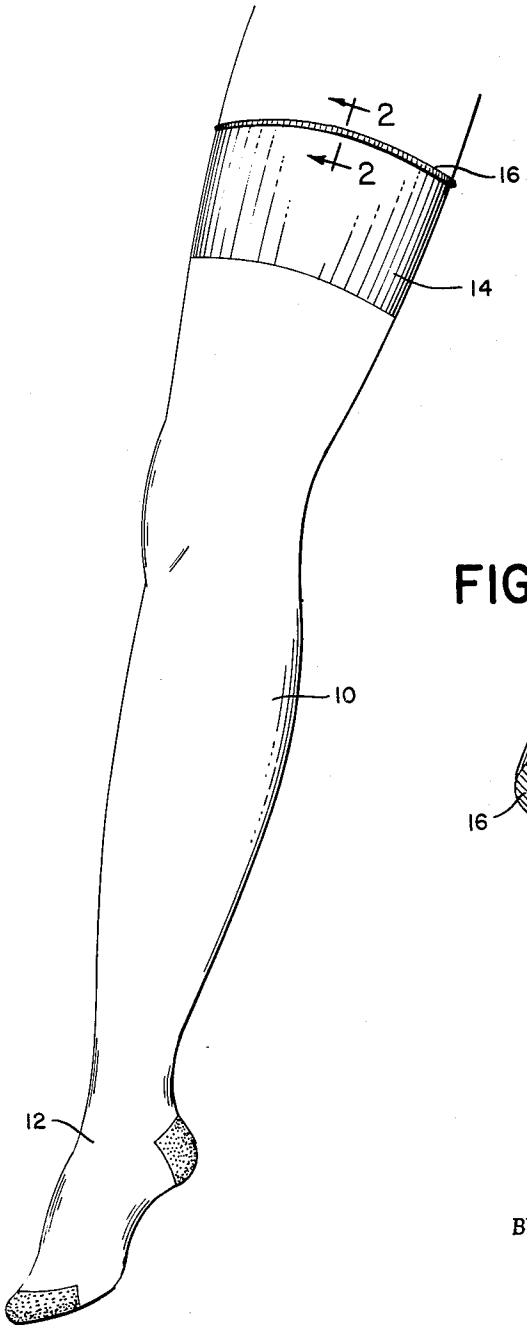
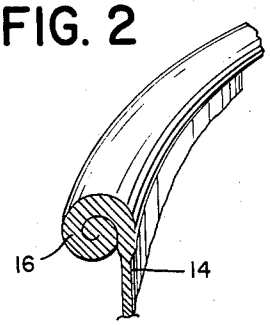



FIG. 2

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United States Patent Office 3,255,613 Patented June 14, 1966



3,255,613

# STOCKING

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Filed June 28, 1963, Ser. No. 291,578
5 Claims. (Cl. 66—172)

This invention relates to improvements in the "roll edge" of a stocking of the type disclosed in Reissue Patent No. 25,331, dated February 19, 1963, to J. V. Clarke.

The invention consists in the improvement set out in detail below, by means of which the terminal edge of a ladies' stocking has the inherent characteristic of forming itself by reason of the manner in which it is knit and of the yarns of which it is knit.

Experience with the structure of the above mentioned reissued patent and further developments in connection therewith have demonstrated that the roll edged structure and its characteristics are enhanced by knitting the band comprising the terminal courses of the welt of a multi-filament synthetic lively yarn alone.

The full nature of these improvements will be set out in detail hereinafter and the scope thereof is indicated by the appended claims and structures of equivalent characteristics.

In the accompanying drawings:

FIGURE 1 is an elevational view of a stocking embodying the subject matter of this invention; and

FIGURE 2 is a diagrammatic illustration in typical cross section taken, for example, on the line **2—2** of FIGURE 1 of the roll edge of this invention.

As in the structures disclosed in the above-mentioned reissued patent, the band, consisting of the terminal courses at the edge of the welt of the stocking, is knit of yarns which act more positively as a spontaneous characteristic to curl or roll upon themselves to form a firm tight core or roll.

As distinguished from the subject matter of the above reissued patent, the improvements as herein disclosed consist of knitting the terminal band at the edge of the stocking of multi-filament synthetic yarns which are naturally lively or rendered lively by known processes as, for example, twisting, heat treating and the like.

For example, multi-filament yarns of polyurethane tetraphthalate, more strongly than in the case of monofilament synthetic lively yarns, have greater springiness or resiliency when knit so as to spontaneously curl or roll upon themselves to form a hard tight core or bead at the terminal edge of the welt.

The resulting terminal edge when knit from a lively multi-filament synthetic yarn rolls firmly into a neater and more uniform bead than in the case of the product of the above reissued patent and yet is softer and more elastic.

In accordance with this invention the structure thereof is applied to full fashioned and seamless or circular knit hosiery of any type consisting generally, for example, as shown of a leg portion **10**, a foot portion **12** and a single thickness welt portion **14**. Without exception, as hereinafter described, the various fabrics commonly employed today in such structures, with all the usual variations thereof, may be used in knitting the leg, foot and welt.

The invention is characterized in that the band at the terminal edge of the single thickness welt consisting of a suitable number of courses, say of the order of 10 to 60, is knit of a multi-filament synthetic lively yarn of suitable denier. The number of courses used will depend largely on the amount of fabric desired in the rolled edge. Due to the inherent characteristics of such yarns when formed into stitches by knitting, this terminal band when



unrestrained spontaneously rolls or curls upon itself to form the tight core or bead **16**. This band is preferably knit with plain stitches, although the inherent characteristic referred to is not necessarily tied thereto.

Yarns of the type having these characteristics are sometimes described as synthetic elastomer yarns of which there are a number of known examples and new equivalents of which are from time to time being created. Speaking generally, for example, such yarns are known chemically as polyurethane tetraphthalate, synthetic linear polyester yarns and synthetic polyamide yarns. As those skilled in the art understand, some of these yarns are naturally lively and in other cases they may be made lively by twisting, heat treating and the like.

Preferably, in accordance with this invention, the multi-filament yarns of this type are used raw or uncovered, but it is within the scope of this invention in some cases to use wrapped or covered yarns of this type. The material of the wrapping and its condition is easily determined by those skilled in the art and can be of different materials having in mind the appearance, the feel and the dyeing characteristics essential to the production of fabric of this type.

The yarn used in the band which forms the roll edge **16** may be of a heavier denier than that of the yarn of the body of the single thickness welt **14**, as diagrammatically illustrated in FIGURE 2. It is to be understood, however, that this is not essential to the advantages of this invention since the denier of the yarn of the band may be smaller than that of the welt body or they may be substantially the same. The welt body, of course, will be knit of yarns suited to that purpose. In the various embodiments of this invention the rolling of the edge band, which forms the bead **16**, naturally stops of its own accord at the line of division between the band knit of lively multi-filament yarn and the main body of the welt, which is knit of multi-filament yarn which is not lively.

A primary advantage of the rolled edge is the neatness of appearance of the finished stocking, both when worn and when on display. When desirable for decorative purposes it can be dyed a different color from that of the stocking itself.

Still another advantage is that the bead or core **16** provides a starting point for hand rolling of the core down onto the welt body to vary the length of the stocking when desired.

It is to be understood that it is within the scope of this invention to knit the courses of the terminal band of the single thickness welt in some cases of two or more multi-filament lively synthetic yarns, the total denier of which will be substantially equal to the denier which would be suitable when using a single yarn of this type.

From the above disclosure it will be apparent that the subject matter of this invention is not strictly limited to the details herein disclosed. For example, as suggested above the subject matter of this invention is applicable to any lively, springy or resilient multi-filament synthetic lively yarn. It is desired, therefore, that the scope of protection be determined by the appended claims rather than by the illustrated embodiments set out above.

I claim:

**1.** A single thickness stocking welt knit of a welt yarn which is not lively and having a marginal band comprising terminal courses knit solely of a multi-filament synthetic lively yarn whereby said marginal band when unrestrained spontaneously curls upon itself to form a tight roll.

**2.** In the stocking of claim **1**, said lively yarn being unwrapped.

**3.** In the stocking of claim **1**, said lively yarn being a polyurethane yarn.

4. In the stocking of claim 1, said lively yarn being a linear polyester yarn.

5. In the stocking of claim 1, said lively yarn being a polyamide yarn.

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