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COMPRESSIVE HOSE AND METHOD OF MAKING SAME

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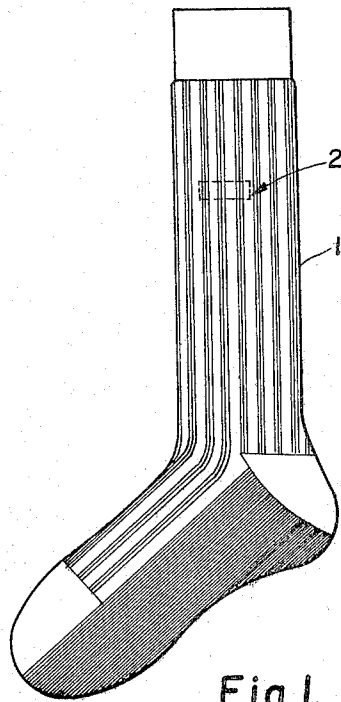


Fig. 1.

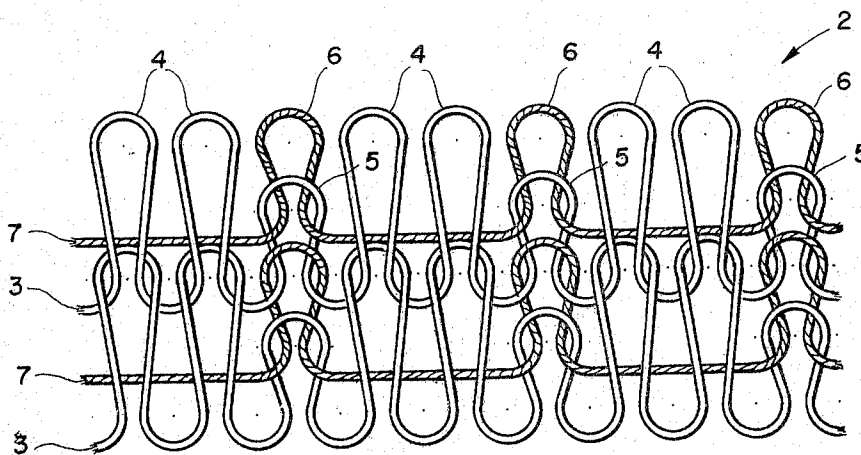


Fig. 2.

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COMPRESSIVE HOSE AND METHOD OF
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1 Claim. (Cl. 66-200)

This invention relates to knitted, stretchable fabrics and to the method of making the same and, more particularly, relates to support type socks, over-the-calf hose and similar items of footwear knitted throughout, or within predetermined areas, with a covered elastic yarn, such as rubber or Spandex, alternating with conventionally thrown or spun yarn, such as nylon, wool or cotton yarns.

Support type stockings commonly used generally suffer the disadvantage of being heavy and bulky, imposing discomfort in wear, and not being attractive in appearance in their expanded state while worn. Most of these stockings are knitted by a single cylinder, seamless hosiery machine and generally rely almost entirely on the stretchability of the elastic yarn for compressive action.

An object of the present invention is to provide a novel stretchable fabric, particularly useful for socks and similar stretchable items, and to a novel method of making the same involving a two cylinder knitting machine which will knit the sock by knitting in, instead of laying in, elastic yarn in every other feed to form a ribbed construction which overcomes the above-named disadvantages by providing a lacy construction which provides the benefit of full support without imposing discomfort of heavy bulkiness.

Another object of the present invention is to provide a novel stretchable fabric, useful for socks and other items, which is attractive in appearance in its expanded state, that is, while worn.

A further object of the invention is to provide a novel support sock in which the compressive characteristic involves not only the stretchability of the elastic yarns and the particular pattern of the knitted fabric, but the ribs knitted as well, thereby providing greater comfort in wear and more attractive appearance.

Other objects and advantages will become more apparent from a study of the following description taken with the accompanying drawing wherein:

FIG. 1 is a plan view of men's ribbed sock knitted in accordance with the principles of the present invention; and,

FIG. 2 is an enlarged detail view of portion 2 in FIG. 1 showing the knitted construction of the sock in the body portion thereof.

Referring more particularly to the drawing, numeral 1 denotes a ribbed, men's sock wherein the entire body portion is knitted in the manner shown in FIG. 2, which illustrates only a portion 2 of the sock of FIG. 1.

In the specific example shown in FIG. 2, which is knitted throughout, in each course there are two wales 4 knitted of conventionally thrown or spun yarn, such as nylon, wool or cotton yarns, followed by a wale of knitted stretchable yarn 6, such as rubber or Spandex.

The construction shown in FIG. 2 consists of two needle wales 4 knitted on the lower cylinder to provide the frame portion, and one needle wale 5 in the upper cylinder to provide the rib portion by a two cylinder circular knitting machine of any conventional type such as "Komet." There is a main feed of nylon yarn, for example, alternating with a second feed of elastic yarn,

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such as "Spandex." In the main feed, the bottom cylinder knits two needles and the top cylinder knits one needle of nylon yarn. In the secondary feed, the bottom cylinder floats for two needles while the top cylinder knits one needle of Spandex or rubber.

The textured nylon yarn 3 forms basic loops both in the lower as well as in the upper cylinder of a two cylinder seamless knitting machine. The Spandex yarn 7 floats behind the two frame stitch wales 4 and knits one rib stitch wale 6, it being noted that both yarns are being employed by themselves.

Knitting of the construction shown in FIG. 2 is possible only by using very precise tensioning devices which will measure out the exact amount of stretchable yarn 7 to be delivered to the needles. The sock is knitted throughout with a covered elastic yarn, such as rubber or Spandex, alternating with a conventionally thrown or spun yarn such as nylon, wool, or cotton yarns. The elastic yarn 7 is knitted into conventional loops or wales 6 alternating with floats therebetween, that is, extending across wales 4 of the nylon yarn 3.

It should be noted that although in each course, two wales of nylon are followed by a wale of stretchable yarn 6, that other patterns may be used instead, such as only one, or more than two wales 4, alternating with two or more wales 6 of stretchable yarn in each course. In short, any predetermined needle division forming a rib arrangement may be used, such as 1 to 2, 3 to 2, etc.

The construction shown in FIG. 2 provides an article of footwear, such as socks, stockings, or "over the calf" socks which will effect uniform compression on the wearer's leg. The compression will adjust in two ways to the contour of the leg, (1) through the flexibility of the knitted stretch construction used for the elastic yarn and (2) through the natural flexibility of the elastic yarn itself. The resulting compression provides a beneficial effect, commonly called "support," on the wearer. The construction shown in FIG. 2 is lacy in nature thus providing the benefit of support without imposing the usual discomfort of heavy bulkiness as exists in many support stockings. It provides the further advantage of attractiveness in appearance in its expanded state, that is, while worn.

Thus it will be seen that I have provided an efficient stretch fabric construction which is especially suitable for the making of men's ribbed hose, although it is also suitable for making any other stretch garments, such as girdles, swimming suits, trousers, blouses, sweaters and the like; furthermore, I have provided a stretch fabric of rib construction which is of lacy outline and extremely comfortable to wear and which provides a very attractive appearance in the stretched condition while being worn; furthermore, I have provided a novel method of knitting the above-named fabric by the use of two cylinders, instead of the commonly used single cylinder, and by virtue of a predetermined feed arrangement.

While I have illustrated and described a single embodiment of my invention, it will be understood that this is by way of illustration only, and that various changes and modifications may be made within the contemplation of my invention and within the scope of the following claim.

I claim:

A circular compressive rib fabric comprising,

- (a) alternating courses of elastic yarn and intermediate courses of relatively inelastic yarn,
- (b) said elastic yarn knitted in the rib wales, and floating behind a plural number of plain wales,

(c) said inelastic yarn knitted into elongated plain stitches between said normal stitches in said rib wales.

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