Dec. 24, 1957 H. M. GREY 2,817,224

HOSIERY CONSTRUCTION

Filed April 14, 1954

Fig. 1.

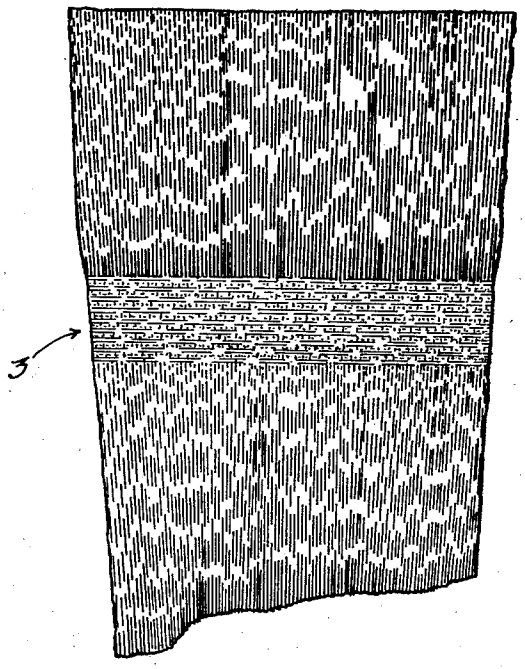
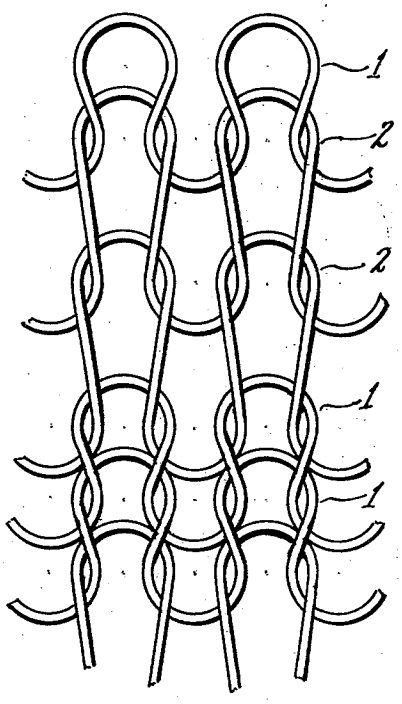


Fig. 3.



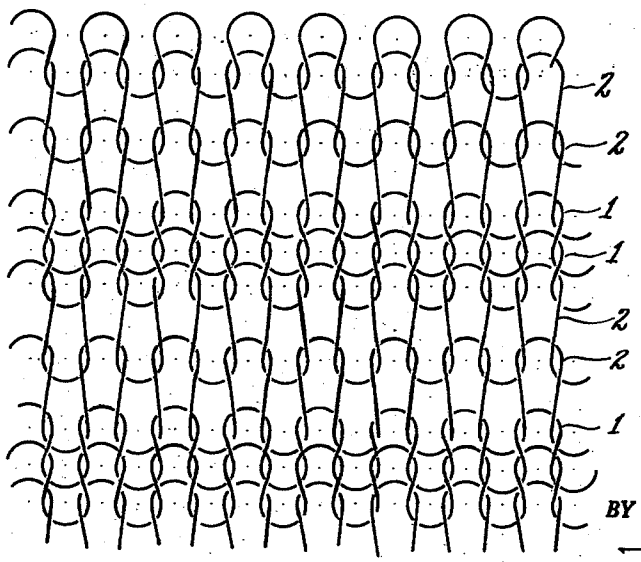


Fig. 2.

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2,817,224

HOSIERY CONSTRUCTION

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2 Claims. (Cl. 66—172)

This invention relates to an elastic band and more particularly to hosiery articles having an elastic band.

It has been known to provide an elastic band between the knee and the welt of a stocking by combining the comparatively inelastic yarn of the rest of the stocking fabric with relatively elastic yarn, such as covered rubber or supertwisted nylon yarn. Provisions are made to reduce curling in the transverse direction.

The rather involved patterns incorporated in these prior art elastic bands require special operations in their manufacture, such as the transfer of stitches for the formation of ladders and runners in varying combinations. This considerably complicates the knitting process. Further these operations are not readily adaptable to round knitting machines.

It is an object of the present invention to provide a simple knitted structure of inherent elasticity in all directions.

It is another object of the present invention to provide such a structure which may be readily produced on a flat or round knitting machine.

It is a further object of this invention to provide such a structure having an unusually pleasing appearance.

It is a still further object of the present invention to provide such a structure as a band within a surrounding fabric having substantially no tendency to curl or bunch in any direction.

The elastic knitted structure may be knitted from any yarn. However, preferably elastic yarn, such as covered rubber or supertwisted elastic nylon yarn is used to improve the elastic properties of the finished product.

The knitted structure according to this invention suitably combines loops of different sizes. These loops may be arranged in any suitable manner, for instance, each course may consist of loops of various sizes, and subsequent courses may or may not follow the same pattern. Alternatively, each course may consist of substantially equal size loops, while the walewise arrangement of the loop sizes follows a suitable sequence.

The knitted structure with which this invention is concerned may be advantageously incorporated in hosiery articles. Particularly it may be knitted into the afterwelt of a stocking of either the full fashioned or the seamless type to permit stretching as required. It may be used in knee-length stockings or in socks at any section where elasticity is considered of advantage.

When used in the afterwelt of a stocking, it is important that these knitted structures not only prevent contraction of the improved elastic band compared to the surrounding fabric, which would result in objectionable curling, but may be designed to considerably contribute to the appealing appearance of the stocking. Thus a decorative effect may, for instance, be secured by a suitable sequence of loosely and tightly knit courses.

In a preferred and especially simple embodiment of pleasing appearance, the loops in each course are of the same size, courses of only two different size loops are being used, and tighter and looser knit courses alternate

in a regular sequence. The sets of adjacent courses of substantially equal size loops may consist of one or more courses as desired.

A stocking embodying the invention will now be described with reference to the accompanying drawing, and the features forming the invention will then be pointed out in the appended claims.

Fig. 1 is a plan view of a top of a stocking incorporating an elastic band according to the invention;

Fig. 2 is an enlarged view of a section of the elastic band illustrating alternating tightly and loosely knitted courses; and

Fig. 3 is a still further enlarged view of a small section of the elastic band.

In the embodiment illustrated, the elastic band 3 is formed by courses of substantially equal size loops arranged in pairs. Only two different size loops are being used so that the resulting walewise sequence alternates two tightly knit loops 1 with two loosely knit loops 2.

An effective elastic band may for instance consist of a sequence of eighty courses, where two loosely knit courses alternate with two tightly knit courses. It will be understood that this structure will readily distort to adapt to any strain exerted thereon, thereby assuring elasticity in all directions. Further a horizontal ribbing pattern of pleasing appearance is obtained.

As will be apparent, the stitch structure shown is one capable of production with or without machinery and by any of a variety of knitting techniques. It may be produced upon a full fashion knitting machine or otherwise incorporated in a full fashioned stocking. However, in such stockings a variety of techniques is available for loosening up and adjusting the structure of an elastic zone, as by the use of points for transferring or dropping stitches in a desired sequence. Such techniques are not, however, applicable to the products of circular knitting machines, in which the present invention will accordingly be found most advantageous. If the knitting of the stocking be visualized as a hand process performed on knitting needles in the usual way, it will be apparent that all that is required is the substitution periodically and at suitable intervals of larger and smaller needles so as to vary the loop size, as required. Where the structure is produced upon a circular knitting machine the same result is very simply obtained by varying the needle stroke so as to produce loops of varying length.

Since a circular knit stocking is a continuous spiraling structure it has no distinct courses as such. However, a sequence of loops starting at any point and coming back to the starting point, even though now displaced wale-wise by one loop length, may be considered as being a course. It will also be apparent that, without any difficulty whatsoever, the longer and shorter loops may be interpolated in course-wise sequences which are fractions or fractional multiples of a course length instead of integral multiples of the length of a course, and that by interpositioning these sequences wale-wise, an unlimited variety of structural patterns may be obtained.

What is claimed is:

1. A stocking having an integrally knit band of elastic yarn positioned above the knee, the band being circular knit so as to form a continuous spiralling structure of loops going around this structure and comprising a sequence of two alternating sets of two courses each, the loops in each of said sets being of substantially the same size, the loops in said two different sets being of substantially different sizes.

2. A stocking having an integrally knit band of elastic yarn positioned above the knee, the band being circular knit so as to form a continuous spiralling structure of loops going around this structure and comprising a se-

quence of two alternating sets of two courses each, the loops in one set being of substantially the same size as the loops in the body of the stocking, and the loops in the other of said sets being of substantially larger size.

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