

Aug. 23, 1938.

J. L. MARSHALL

2,127,780

ELASTIC TOP HOSIERY

Filed July 25, 1936

2 Sheets-Sheet 1

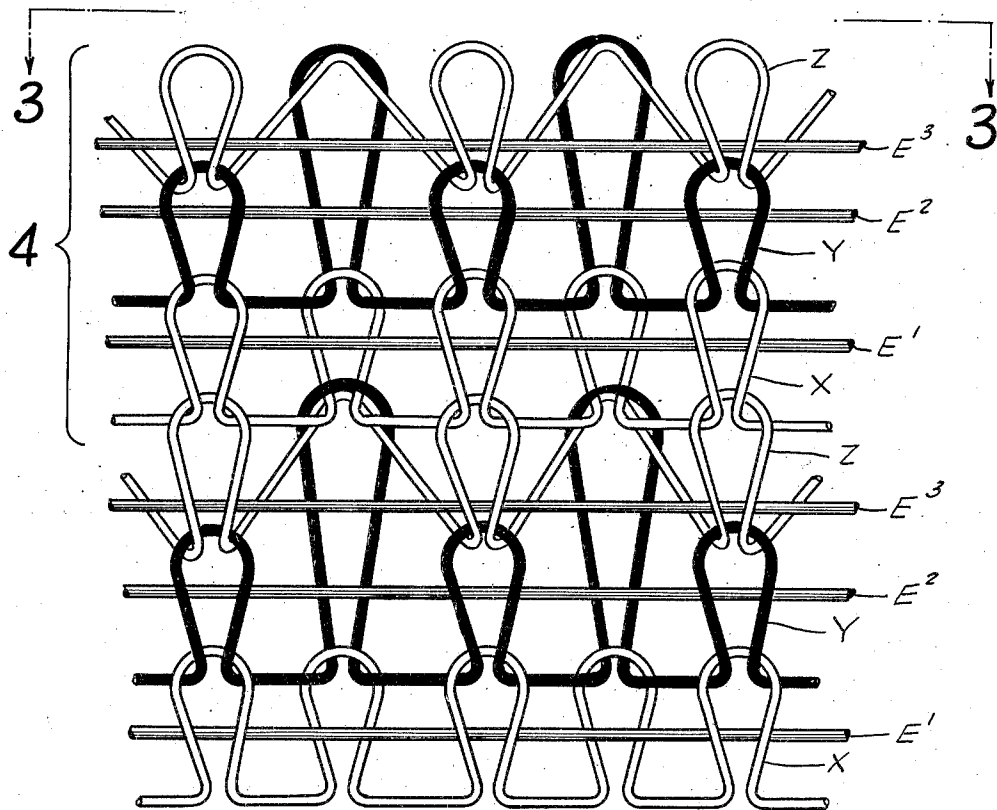


Fig. 2

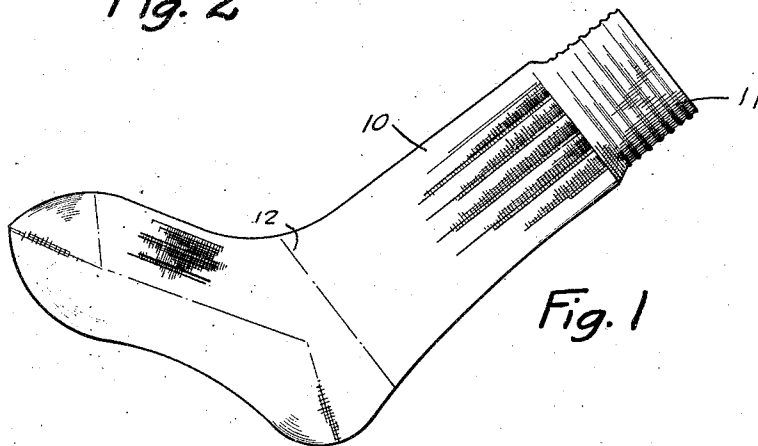


Fig. 1

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2 Sheets-Sheet 2

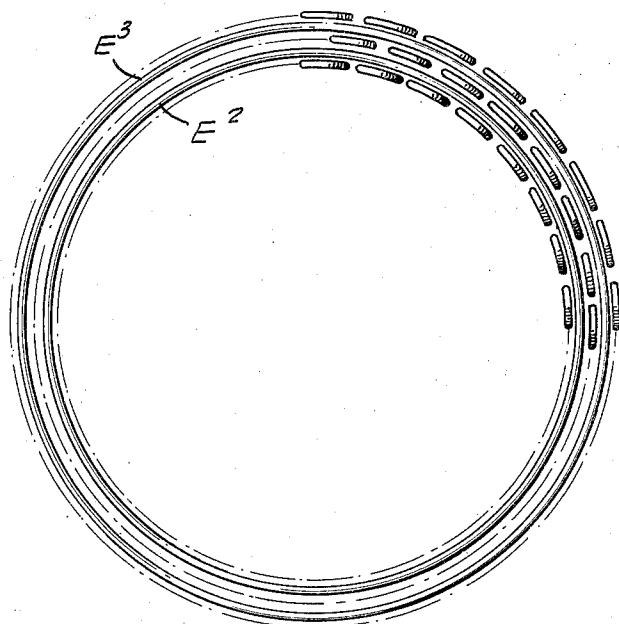


Fig. 3

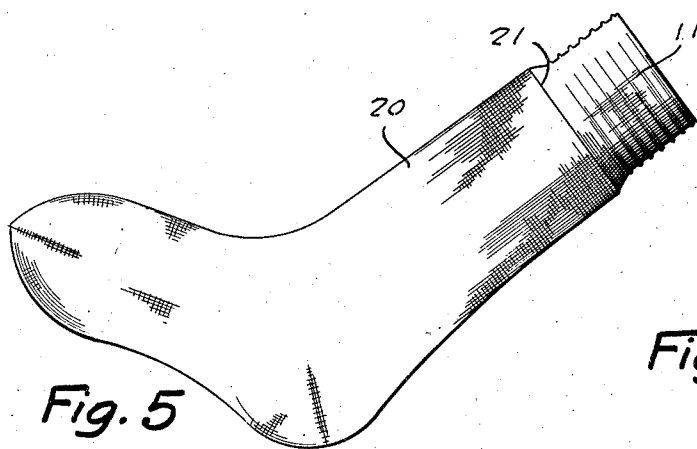


Fig. 5

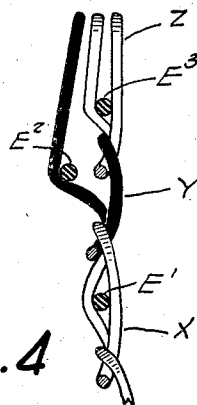


Fig. 4

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UNITED STATES PATENT OFFICE

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ELASTIC TOP HOSIERY

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2 Claims. (Cl. 66—172)

This invention has to do with hosiery, and is concerned primarily with that type of hosiery in which the top or cuff portion includes an elastic element to impart garter effects thereto.

The present invention has in view as its foremost objective the provision of hosiery of the type above referred to, which is knit in a manner to provide an appearance effect in accordance with a certain modern trend, to be hereinafter discussed in detail, and at the same time provide a cuff in which an elastic element is incorporated in a novel manner, to provide improved garter effects on the part of the cuff.

Largely from the aspect of the appearance of hosiery there is a certain definite modern trend which indicates the desirability of the hosiery having the appearance of the so-called Italian raised stitch, and this invention proposes to follow this trend by availing of a cuff in which a plurality of courses of tuck stitches are included therethroughout, and which tuck stitches enclose turns of an elastic element whereby the raised stitch appearance effect is afforded.

Aside from the appearance effect above noted, the invention is also concerned with the garter functions which are to be performed by the elastic tuck ribbed cuff. An important object of the present invention is the provision of hosiery of this type including an elastic tuck ribbed cuff in which an elastic element is arranged spirally therethroughout, to define a helix of comparatively small pitch, which arrangement permits of the elastic element being laid in under light tension, and the entire cuff is rendered effective to grip the leg of a wearer over a wide area, to provide the necessary garter effects under conditions affording the greatest degree of comfort to the wearer.

Prior to this invention there have been proposed certain methods of knitting an elastic ribbed cuff along the same general lines above indicated, in which a multi-feed knitting machine is employed. However, when a multi-feed knitting machine is availed of for this purpose, the elastic inlay is laid in on only one course of the several which are knit by the machine; such an arrangement being common with the use of a multi-feed machine.

With this arrangement the elastic inlay defines a helix of an appreciable pitch, and as a result it is necessary to lay the elastic inlay in under an appreciable degree of tension. This need is entirely obviated by the present invention, which proposes the use of a so-called single feed knitting machine, and in which there is a

turn of the elastic inlay for each regular course of stitches, and in addition a turn of the inlay for each course of the tuck stitches which may be formed on the dial needles of the machine.

With the use of a single feed knitting machine of the type above referred to, which includes cylinder and dial needles, it is possible to form a course of tuck stitches on the dial needles for each regular course or plurality of regular courses of stitches formed, and the present invention contemplates including a course of tuck stitches for any desired number of regular courses.

More particularly the invention has as an object the provision of a course of tuck stitches as every third course in the elastic tuck ribbed cuff.

The invention has in view, as a further object, the provision of hosiery including an elastic tuck ribbed cuff of the stitch structure above referred to, and in which an elastic element is laid in spirally behind the plain stitches formed on the cylinder needles, and in front of the rib stitches formed on the dial needles, and in which there is a turn of the elastic inlay for each course of regular stitches, and a turn for each course of the tuck stitches.

In view of the fact that the leg portion proper of hosiery is ordinarily knit on a single feed machine, the difficulty of transferring from a multi-feed machine to a single feed machine, which is present when the multi-feed machine is used in the knitting of the cuffs, is entirely obviated by the present invention, in which the single feed ribber may be employed to knit the leg portion proper, in addition to the elastic tuck ribbed cuff.

The greater advantages of the invention, however, lie in the provision of hosiery in which the cuff provides the raised stitch appearance effects, and in which the elastic inlay is under relatively light tension; the permissibility of the latter being attributed directly to the narrow pitch of the helix which is defined by the elastic inlay.

An important phase of the present invention is the method of knitting an elastic cuff on a single feed ribber in accordance with the precepts above noted; the method being a part of the invention, as is the cuff itself.

Various other more detailed objects and advantages such as arise in carrying out the above noted objects in a practical manner will in part become apparent, and in part be hereinafter stated, as the description of the invention proceeds.

The invention, therefore, comprises hosiery including an elastic tuck ribbed cuff which is knit

on a single feed ribber knitting machine, and which cuff is made up of a plurality of courses of regular stitches, there being a course of tuck stitches for one or more courses of regular stitches. An elastic element is laid in on each course of regular stitches, and in addition a turn of the elastic element is laid in between the tuck stitches which are formed on the dial needles, and the regular stitches formed on the cylinder needles.

For a full and more complete understanding of the invention, reference may be had to the following description and accompanying drawings, wherein

Figure 1 is a view in elevation of a piece of hosiery made in accordance with the precepts of this invention. In this view the leg portion proper of the hosiery is shown as being of the rib type,

Figure 2 is an illustration somewhat diagrammatical in nature, bringing out the arrangement of stitches which are knit on the machine to define the tuck ribbed cuff. In this view the stitches are shown in an exaggerated distended position,

Figure 3 is another showing somewhat diagrammatical in nature, bringing out the relative disposition of the stitches formed on the cylinder and dial needles, and the manner in which the turns of the elastic inlay are laid in between. This view is taken as a horizontal plan view, with one of the regular courses ravelled back, the plane of this view being indicated generally by the line 3—3 of Figure 2,

Figure 4 is an enlarged detailed showing in transverse section of a portion of the cuff, bringing out the stitches in an exaggerated distending relationship, and

Figure 5 is a view similar to Figure 1, showing a piece of hosiery in which the leg portion is knit on a plain knitting machine.

Referring now to the drawings, wherein like reference characters denote corresponding parts, there is shown in Figure 1 a piece of hosiery, such as a child's sock, which is referred to by the reference character 10. While the illustration is indicative of the fact that this sock is of the children's type, it is to be understood that the invention is to be in no way limited in this respect, as it may be practiced in connection with any type of hosiery.

The sock 10 is shown as formed with a cuff 11, which is knit on a circular knitting machine commonly known in the art as a single feed ribber, and which machine includes the usual cylinder and dial needles.

While the leg portion of the sock 10 may be knit on any type of knitting machine without materially affecting the present invention, as the latter is concerned primarily with the knitting of the cuff 11, in the preferred embodiment shown in Figure 1 the leg portion 10 will be knit on the same single feed ribber, as is the cuff 11.

As shown in Figure 1, after the cuff 11 is knit a transfer is made over to the knitting of the foot portion, the transfer line being indicated at 12.

Referring now more particularly to Figure 2, one course of regular stitches is represented by the plain white band, and is referred to by the reference character X. A course of stitches, including tuck stitches, is shown in full black, and is represented by the reference character Y, while a third course of regular stitches is shown by the plain white band and designated Z.

It is notable that each of the courses of regular

stitches X and Z includes rib stitches which are formed on the dial needles, and contain plain stitches which are formed by the cylinder needles. However, in the course Y the tuck stitches are formed on the dial needles only; the cylinder needles holding the regular stitches. As the course is knit a turn of elastic, designated E¹, is laid in behind the cylinder needles, and in front of the dial needles. Likewise, when the course of stitches Y, including the tuck stitches, are knit, the elastic is laid in behind the cylinder needles and in front of the dial needles, and this turn of the elastic is represented at E².

This same practice is followed in the formation of the regular courses of stitches Z, and the elastic inlay for the course Z is identified as E³.

In the form of the invention illustrated in the drawings each third course of stitches takes the form of a course represented at Y, which include the tuck stitches. Obviously the invention is not to be limited in this respect, as a course of tuck stitches may be included for each course of regular stitches, or for any desired number of courses of regular stitches.

Figure 3 develops the condition of the cuff after a course like X has been ravelled back. In this condition it will be noted that both of the elastic turns E³ and E² are free to be withdrawn from the stitches, as this elastic is merely laid in between the stitches formed on the cylinder needles and the stitches formed on the dial needles.

However, a raveling back of the course Z, which includes the stitches, will not permit of any elastic being withdrawn, both E² and E³ being removed as noted above, as it will be necessary to ravel back the course Y before the elastic turn represented at E¹ could be withdrawn.

It is evident that the pitch of the helix defined by the elastic inlay E is very small, and as a result this elastic is laid in under very light tension, which is followed by improved results in the finished cuff, as the latter will snugly grip the leg of a wearer without any discomfort or marring effects.

Referring now more particularly to Figure 5, the cuff 11 is shown as applied to a stocking 20, which is not of the rib type, but which has a plain knit fabric leg. In this view the transfer between the cuff and the leg portion proper is indicated at 21.

While the preferred embodiment of the invention hereinbefore described involves the formation of the tuck stitches on the dial needles, the invention also embraces the formation of the tuck stitches on the cylinder needles.

When the latter arrangement is carried out in actual practice, there will be a course of stitches including tuck stitches formed on the cylinder needles for one, or a plurality, of courses of regular stitches.

It is evident from the foregoing that the tuck stitches can be formed on either the cylinder and dial needles, as occasion demands, or the tuck stitches can be formed on both the cylinder and dial needles.

While a preferred specific embodiment of the invention is hereinbefore set forth, it is to be clearly understood that I am not to be limited to the exact constructions illustrated and described, because various modifications of these details may be provided in putting the invention into practice within the purview of the appended claims.

I claim:

1. A circular knit stocking having a rib top and

5 a plain leg, said rib top comprising rib wales and plain wales, each rib wale comprising regular stitches and tuck stitches in alternation throughout said top, the rib stitches in any given course being either all regular or all tuck, and a spiral elastic thread inlaid between the plain and rib wales throughout said top.

2. A circular knit ribbed stocking top compris-

ing rib wales and plain wales, each rib wale comprising regular stitches and tuck stitches in alternation throughout said top, the rib stitches in any given course being either all regular or all tuck, and a continuous elastic thread inlaid between the plain and rib wales throughout said top. 5

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