R. W. SCOTT.

STOCKING AND THE ART OF MAKING THE SAME.

APPLICATION FILED FEB. 14, 1913.

1,114,298. Patented Oct. 20, 1914.

Fig. 3.

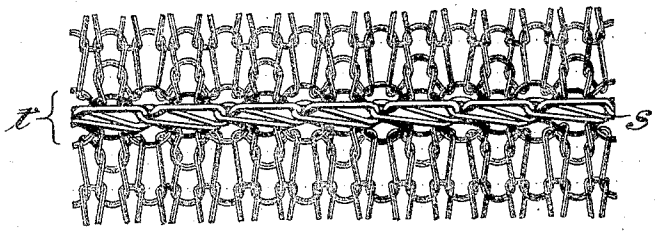


Fig. 4.

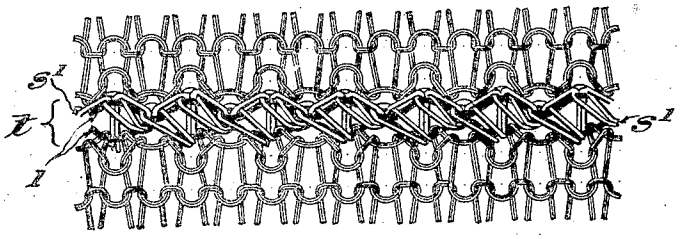


Fig. 5.

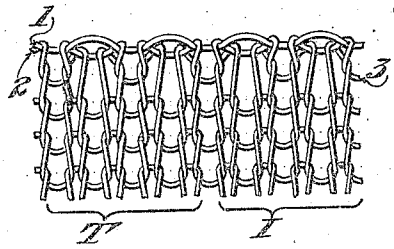


Fig. 2.

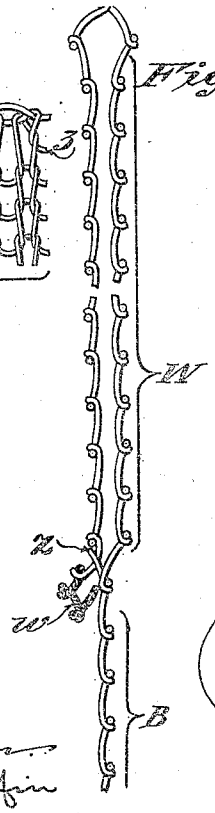
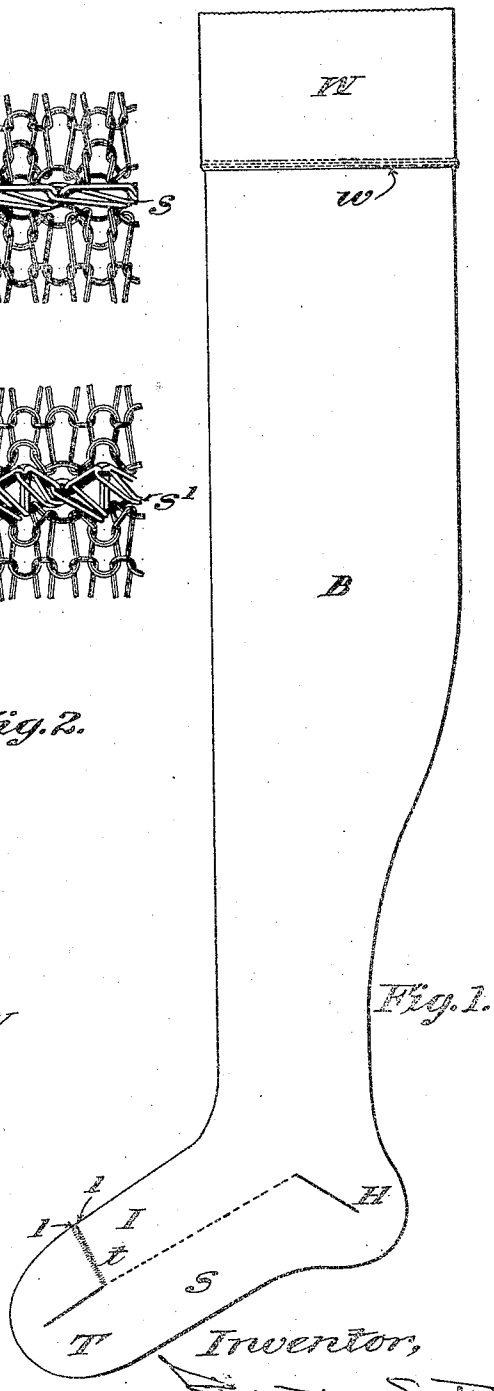


Fig. 1.



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UNITED STATES PATENT OFFICE.

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STOCKING AND THE ART OF MAKING THE SAME.

1,114,298. Specification of Letters Patent. Patented Oct. 20, 1914.

Application filed February 14, 1913. Serial No. 743,310.

To all whom it may concern:

Be it known that I, ROBERT W. SCOTT, a citizen of the United States, and resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and useful Improvement in Stockings and the Art of Making the Same, of which the following is a specification.

The object of my invention is to provide a stocking or sock knit complete at a single operation, and having an improved construction at the toe seam and at the juncture of the welt with the body.

A further object of my invention is to simplify the procedure of knitting such stockings, and especially of knitting seamless circular knit stockings with the aid of machinery.

In the accompanying drawings, Figure 1 is an elevation of the garment embodying my invention; Fig. 2 is a section in the nature of a diagram longitudinally through the welt or hem at the top of the stocking; Fig. 3 is an illustration of the fabric structure at the toe seam in the completed stocking; Fig. 4 is a similar illustration of a modified form of such structure; Fig. 5 is a view showing the fabric structure on the wrong or back side of the fabric at the toe seam.

Circular seamless knit stockings of the prior art are usually knit from the top toward the toe, the operation beginning by the manufacture of a tube of plain knit fabric which may be formed in continuation of a ribbed top or with a transferred folded section of fabric to provide an end finish at the top of the garment, or it may begin as a plain fabric tube at the end of a preceding stocking in a string work, the finish at the top of the tube being provided by subsequent sewing operations.

In either of the above cases the stocking is completed as a machine operation upon the resumption of circular knitting after the making of a reciprocally knit pocket for the toe. Usually from ten to twenty courses are provided after this point to constitute "loopers' rounds" or a handling section for the subsequent impalement of a flattened tube on the points of a looper, which will thus draw together the heads of diametrically opposite wales at the top of the toe, and the heads of adjacent wales at the sides of the toe. The "loopers' rounds" are cut or raveled away before the sewing begins, and represent waste fabric. I am also aware of other stockings in the prior art knit in the opposite direction, but difficulties have ensued with the construction of the welt at the top of the stocking. So far as I am aware such stockings are necessarily provided with a sewed welt at the upper end thereof. In some instances such stockings have been formed with a closed toe seam, but this is only in the case of stockings knit upon a straight or flat bed machine, in which the device for closing the toe seam was a setting-up course supplied alternately to needles of each of the beds, upon one of which the heel and toe pockets were subsequently knit, and upon both of which the leg tube was knit. The method of knitting in this case also necessarily employed a sewed turned welt.

My improved stocking is knit from the toe toward the top and is typically the product of a circular knitting machine, although it will be obvious that it may be produced, if desired, upon a straight knitting machine of a type capable of knitting heel and toe pockets.

The operation begins with a single circular course at the beginning of the toe pocket, which course engages the alternate wales only of the succeeding fabric, and is shown at 1 in Figs. 3, 4 and 5. In said latter figures the yarn of said course 1 has been indicated in solid black for clearness. A second circular course 2 in all of the wales is now supplied. The construction indicated comprises a beginning selvage, the structure being that of Fig. 2 of my Letters Patent No. 1,045,621, November 26, 1912. The knitting of the toe T is immediately begun for instance at the course 3 by rendering idle the needles of the instep part I of the stocking in a manner well known in the art. Upon its completion the remainder of the instep I and the sole S together constituting the circular knit foot, heel pocket H and body B of the stocking are knit in the usual manner. When the operation has reached the proper point upon the completion of the leg or body portion B, I put out of action needles distributed in a predetermined order among the remaining needles, to withhold loops of the knitting, as shown at *z* in Fig. 2, and continue the production of the fabric upon the remaining needles to form the welt

W. While the needles thrown out of action at this point may be alternate needles, as disclosed in my Patent No. 1,045,620, November 26, 1912, in connection with the production of the fabric shown in Fig. 9, I prefer to render idle every fourth needle, in order to provide a greater extent of solid fabric for the fabric of the welt. It is also within my invention to adjust the stitches during the making of the welt fabric W in order to increase its capacity for lateral stretching. Having restored the needles upon which the loops *z* were knit to action, I proceed as in the case of said Patent, No. 1,045,620 to knit a fastening strip *w* several courses long, to prevent the raveling of the uniting loops passing through loop *z*. This strip may well be formed of a soft, loose yarn. I find that the tendency of the fabric of such a strip (which, it will be understood, is cast from needles at the end of the operation) is to curl inward, forming a soft cord delimiting the extent of the welt and adding to the attractive appearance of the completed article. My stocking is now complete except for the closure at the toe seam, and it will be understood that by the above described steps I have provided a blank with an open toe seam which is without any "loopers' rounds," but which has the selvage edge formed by the course 1 and 2 immediately at the proper location for such a seam. I now proceed to finish the stockings by folding one selvage upon the other and passing the approximated selvage edges through an overseaming looper or sewing machine of any of the types familiar in the art, such for instance as one of the machines employed for the sewing of selvaged blanks for the manufacture of flat-fashioned knit hosiery and underwear. Such machines are not usually provided with impaling implements to hold the fabric, but it will be understood that, having provided a selvage edge at the toe seam, it is not necessary that every loop should be impaled to prevent raveling. I have indicated for instance in Fig. 3 at *s* a chain of stitches from such a looper engaging the yarn from courses 1 at every other wale, although it will be understood that the seam would be equally secure if some of the stitches engaged as shown in said figure and some of them engaged at other parts of the fabric, for instance within several courses at the selvage edge, or at intervals of more than two wales in lateral extent.

In Fig. 4 I have shown at *s'*, for one instance, a seam of the same character as that shown in Fig. 3 in which the needle impaled every wale of the fabric. In practice the seam will usually be sewn so that its interlooped chain of stitches rest upon the wrong side of the fabric within the stocking, as shown in said Fig. 4. In any case the looping of the toe seam of the stocking will be a comparatively rapid operation capable of being performed by comparatively unskilled labor, both qualities being due to the avoidance of any necessity to accurately impale a needle loop in each one of the wales of the fabric.

A further advantage of my new structure and method lies in the avoidance of the waste of yarn occurring in stockings knit with a waste section or loopers'-rounds beyond the toe.

Having described my invention, what I claim is:—

1. A stocking of knit fabric having a circularly knit foot portion provided with a toe seam consisting of a line of sewing stitches uniting integrally selvaged sections of the fabric of the foot portion.

2. A circular seamless stocking having seamless heel and toe pockets and a toe seam, comprising one or more courses of fabric having a selvage structure brought into abutting relation and united by sewed stitches.

3. In a stocking knit from toe to top, a foot portion comprising initial selvage courses and a reciprocally knit toe pocket knit in prolongation of substantially one half of the fabric of said courses.

4. A stocking having a toe pocket with selvage course extending around the edges of both the sole and instep portions of said toe pocket and having the stitches around the edge of the sole portion of the pocket united to those around the edge of the instep portion of the same.

5. A circular seamless stocking having a toe pocket and an instep portion with a common initial course engaging alternate wales only of said fabric and a common succeeding course engaging the remaining wales of said fabric, thereby forming a selvage structure at the beginning of the toe pocket and the toe end of the instep section for the engagement of a line of sewed stitches.

6. The art of making seamless stockings, consisting in first knitting a selvage structure, then knitting a seamless toe pocket in integral prolongation of a part of said selvage structure and a section of fabric for the instep and sole of the stocking in integral prolongation of said toe pocket and another part of said selvage structure, thereafter completing a seamless leg portion, and thereafter completing the stocking by folding the selvage portion upon itself and forming a line of sewed stitches uniting the parts of said selvage section.

7. The art of making seamless stockings consisting in first knitting a selvage structure, then knitting a seamless toe pocket in integral prolongation of part of said selvage structure and a section of fabric for the sole and instep of the stocking in integral prolongation of said toe pocket and another

part of said selvage structure, respectively, and knitting thereafter a seamless heel and a leg portion, knitting an integral welt, and thereafter completing the stocking by folding the selvage portion upon itself and forming a line of sewed stitches uniting the parts of said selvage section.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT W. SCOTT.

Witnesses:

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