R. W. SCOTT.

SEAMLESS STOCKING.

APPLICATION FILED MAY 27, 1914.

1,123,402.

Patented Jan. 5, 1915.

3 SHEETS—SHEET 1.

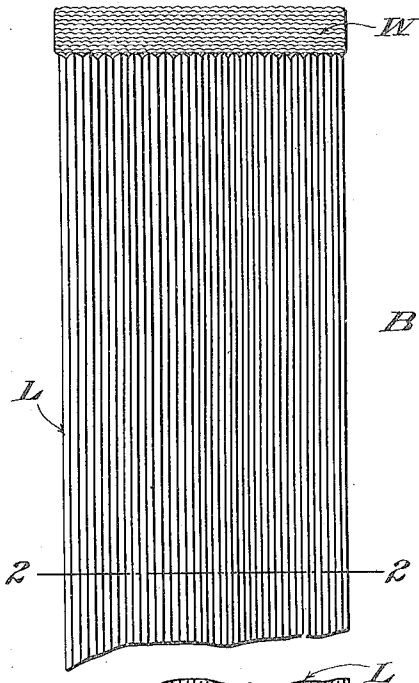

Fig. 1

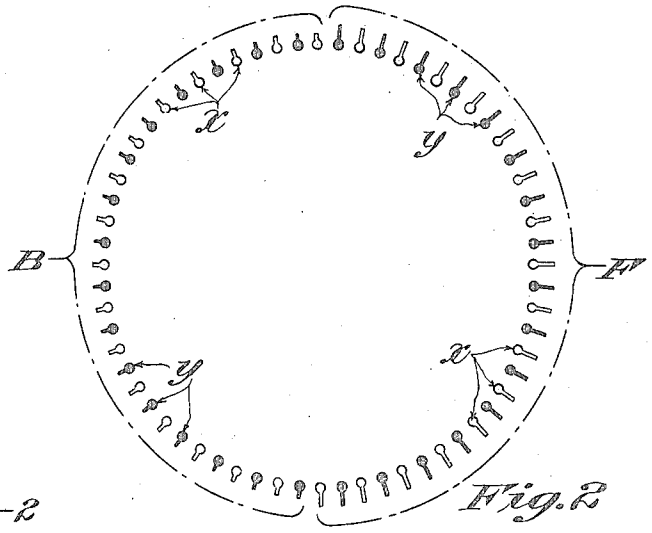

Fig. 2

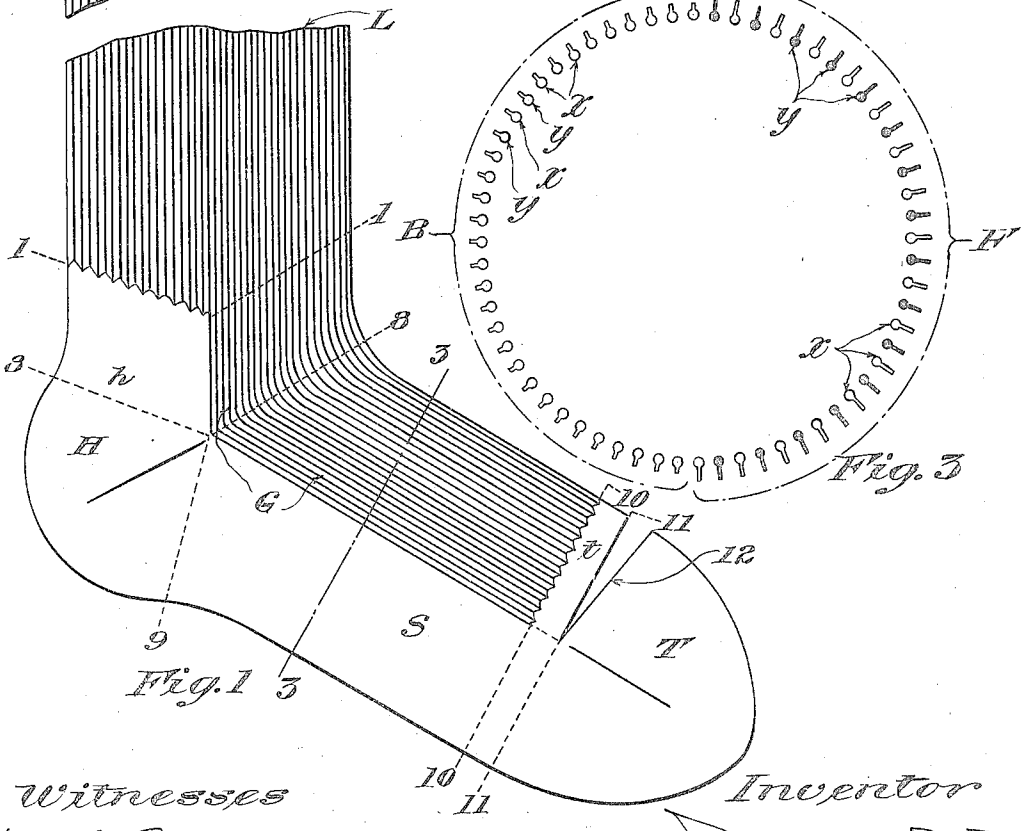

Fig. 1

Fig. 3

Witnesses

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Inventor

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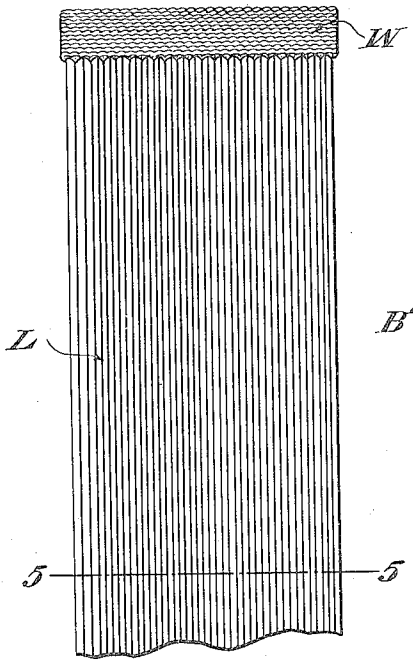
2 SHEETS SHEET 2.



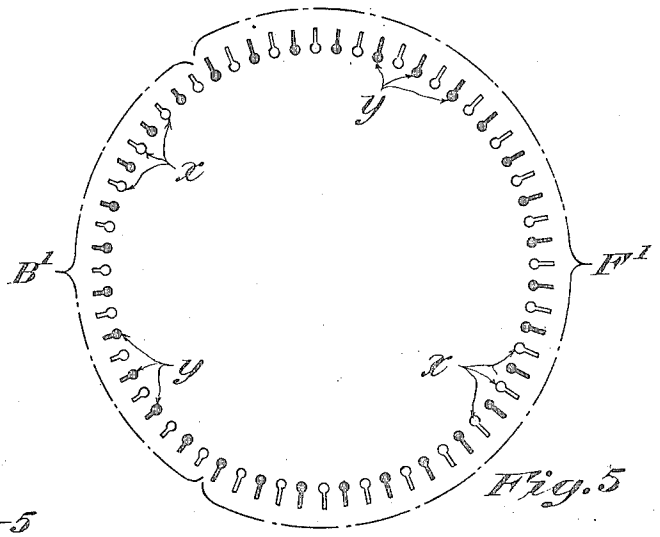
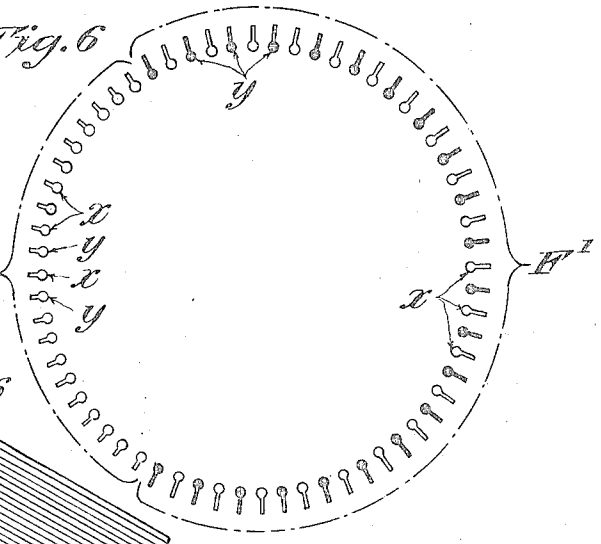


Fig. 5

Fig. 6



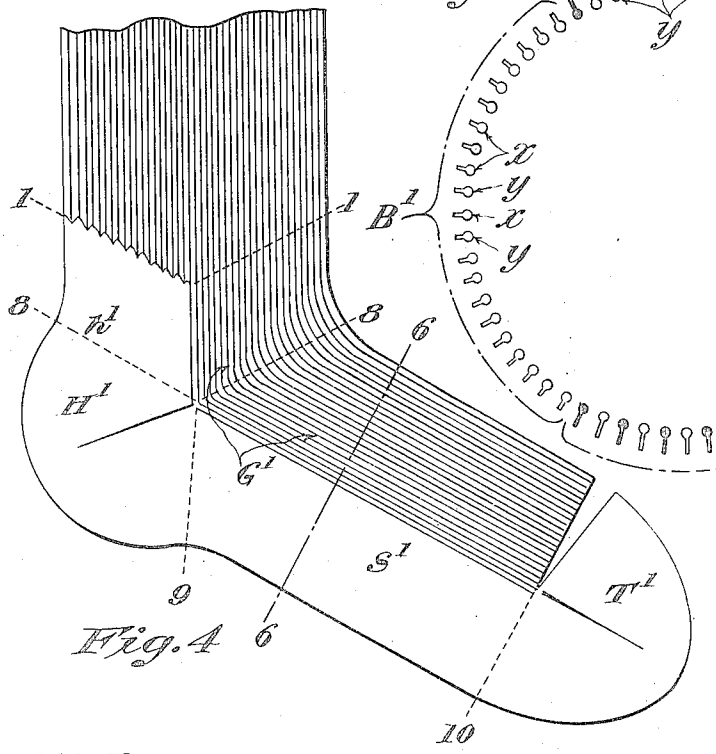


Fig. 4

Witnesses
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UNITED STATES PATENT OFFICE.

ROBERT W. SCOTT, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO SCOTT & WILLIAMS, INCORPORATED, OF CAMDEN, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SEAMLESS STOCKING.

1,123,402. Specification of Letters Patent. Patented Jan. 5, 1915.

Application filed May 27, 1914. Serial No. 841,371.

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 certain new and useful Improvements in Seamless Stockings, of which the following is a specification.

My invention relates to knit stockings, one object being to provide an improved garment of a plain or one-faced fabric capable of the same uses as the well-known ribbed stockings and having other advantages.

In the accompanying drawings, Figure 1 is a side elevation of one form of my new seamless stocking; Figs. 2 and 3 are diagrams of an illustrative circular knitting machine in plan illustrating needles in action in outline and needles out of action in black, at the respective times of knitting fabric at the lines 2—2 and 3—3 of Fig. 1; Fig. 4 is a view similar to Fig. 1 of another form of my new stocking; Figs. 5 and 6 are views respectively similar to Figs. 2 and 3, showing the arrangement of the needles employed when making fabric at the lines 5—5 and 6—6 of the stocking of Fig. 4.

As shown in the drawings, referring now to Fig. 1, the leg L is composed of plain knit fabric, having longitudinal wales of knit loops comparatively widely spaced from each other, providing a seamless tube which may be made as heavy as desired, by the employment of suitable yarns, and selection of the length of stitch. Preferably the said tube L is knit from the top toward the toe of the stocking, and is provided with an end-finish W at the top thereof, which may be a welt turned inwardly or outwardly and sewed, or fastened integrally to the fabric. Such a tube may be formed by knitting on spaced needles, such as alternate or other recurrent needles of a circular knitting machine as illustrated by the needles x, in Fig. 2, showing for clearness only 64 needles, but it will be understood that my invention contemplates the use of machines having any usual number of needles, which may be arranged in a circle, or in two flat beds near each other, or otherwise as well known in the art.

As shown in Fig. 2, 32 needles x are shown as engaged in forming the leg L, the needles x alternating with the needles y, which do not knit during the production of said tube. A preferred form of welt or end finish W comprises fabric of the same number of wales as the leg L knit on the needles y alternating with those for said leg and joined thereto by a uniting course having loops knit upon all of the needles, as described and claimed in my application Serial No. 823,121, filed March 7, 1914, patented October 6, 1914, No. 1,113,166.

When the tube L has been formed as far as line 1—1, Fig. 1, which may be at any desired point above the heel, I may form a section h of a different texture at the back part of the tube L, while continuing the making of fabric like that of the leg at the front part of the tube, by placing in operation the needles y, occurring among the needles x upon which the back of the tube is formed, and by exchanging the yarn for a finer yarn suitable to the fabric formed by the continuous section of needles x and y, which may coincide with the series of needles B such as those usually employed to knit seamless heels and toes, the active and idle needles being arranged as in Fig. 3. The fabric h in the instance given will have twice as many wales to the unit width as the fabric for the leg L, the additional wales corresponding to the needles y, and will be continuous and side by side with so much of an instep section G as extends from line 1—1 to the line 8—8. The needles x of the front half F will be thrown out of operation at the line 8—8, while forming the usual heel H on the needles B.

When the heel has been completed, at the line 9, the needles x only of the front half F will be restored to operation and knitting for the sole S, on all the needles x and y of section B, and on the needles x only of the section F, for the instep or foot-top G, will proceed as far as the line 10—10. At this point, I may introduce the needles y of the front half F in order to knit a section t of fabric on all the needles of the half F. The sole S will end at the line 11—11, at its juncture with a narrowed and widened toe T, of the usual form.

The formation in the described manner of the section t provides fabric of as many wales as the last course 12 of the toe T. I then knit the usual "loopers-rounds," but for clearness I have shown the fabric ending at the last course 12 of the toe.

For a greater reduction in the size of the foot, or when the instep fabric is desired to occupy more of the circumference of the foot, I prefer to knit the foot portion as illustrated in Figs. 4 to 6.

Referring now to Fig. 5, I distribute the needles so that the section F′ for the front of the leg and the instep is larger, to any desired extent, for instance substantially twice as large, as the section B′, comprising the needles for knitting heel, sole and toe. The leg L may be the same as above described. The section of fabric *h′* at the back of the ankle is now formed, as in the case of the section *h* of the fabric of Fig. 1 upon the continuous series of needles *x* and *y* forming the section B′.

When changing the yarn at the line 1—1 in either form of my article I may, if desired, knit the fabric of the instep section G or G′ with the addition of a splicing yarn.

My invention provides a stocking in close imitation of the ordinary ribbed leg stocking, on account of the coarse loops and comparatively heavy yarn of said leg; with a foot of approximately the same width as the leg; with a heel, sole and toe portion of a texture different from and more durable than other portions of the stocking, the foot being capable of variation in width within certain limitations, due to the ready means of increasing or decreasing the number of active needles in said foot.

When closing the toe by the ordinary looping process, in such a stocking as that shown in Fig. 1, each side of the toe gap contains the same number of stitches, and the operator proceeds in the usual manner. If I elect to add to or decrease the number of wales in the instep portion, the looping may still be expeditiously performed, providing the operator knows beforehand how many wales one side contains in excess of the other.

What I claim is:—

1. A seamless stocking having a leg and foot top of plain fabric of a coarse texture imitating the appearance of ribbed knitting, and a heel sole and toe of fine plain fabric in integral continuation of said coarse fabric.

2. A plain fabric seamless stocking characterized by a leg tube of regular comparatively coarse plain fabric, imitating the appearance of ribbed fabric integrally continued through the top of the foot, and an integral heel, sole and toe of plain fabric of finer texture having a greater number of wales to the unit width.

3. A plain fabric seamless stocking having a coarse plain fabric leg tube, an integral end-finish or welt, an integral instep section continuing the wales of the leg and an integral plain fabric heel, sole and toe, said last mentioned fabric having additional knit wales intervening between every pair of adjacent knit wales continuing all of the wales of the back of the leg.

4. A seamless stocking having a coarse plain fabric leg portion, an instep or foot-top in continuation of the front part of the leg having as many wales of loops as the part of the leg to which it is joined, and an integral heel and sole of finer plain fabric having therein wales in continuation of all the wales of the remaining part of the leg, and additional wales.

5. A seamless stocking having a coarse plain fabric leg portion and an instep or foot-top in continuation of the front part of the leg having substantially as many wales of loops as the part of the leg to which it is joined, the whole number of said wales being more than half the number of leg wales, and an integral heel and sole of finer plain fabric having therein wales in continuation of all the wales of the remaining part of the leg and additional wales.

6. A plain fabric stocking comprising a seamless leg tube of coarse plain fabric having a ribbed appearance, and a section of fine fabric knit in integral continuation of a less number of wales than those of said section, the courses of said section being continuous with courses of a coarse fabric instep portion continuing the wales of the leg and of substantially the same appearance as the leg.

7. A plain fabric stocking comprising a coarse seamless leg tube knitted with relatively widely spaced instruments and with a relatively heavy yarn or yarns, and a section of fine fabric knit of a finer yarn in integral continuation of a less number of wales than those of said section; the courses of said section being continuous with courses of an instep portion formed of said finer yarn and an additional yarn.

8. The art of knitting tubular fabric having therein sections of finer and closer knitting, comprising first knitting with recurrent regularly spaced instruments, comparatively coarse fabric with a loose stitch and a heavy yarn; thereafter changing the yarn to a finer yarn and knitting with a closely placed series of instruments with said finer yarn throughout a part of each course, and with spaced instruments throughout the remainder of each course.

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

ROBERT W. SCOTT.

Witnesses:
MARY F. GRIFFIN,
M. G. CROZIER.