March 31, 1931. R. W. SCOTT 1,799,070

KNITTED STOCKING AND PROCESS FOR PRODUCING THE SAME

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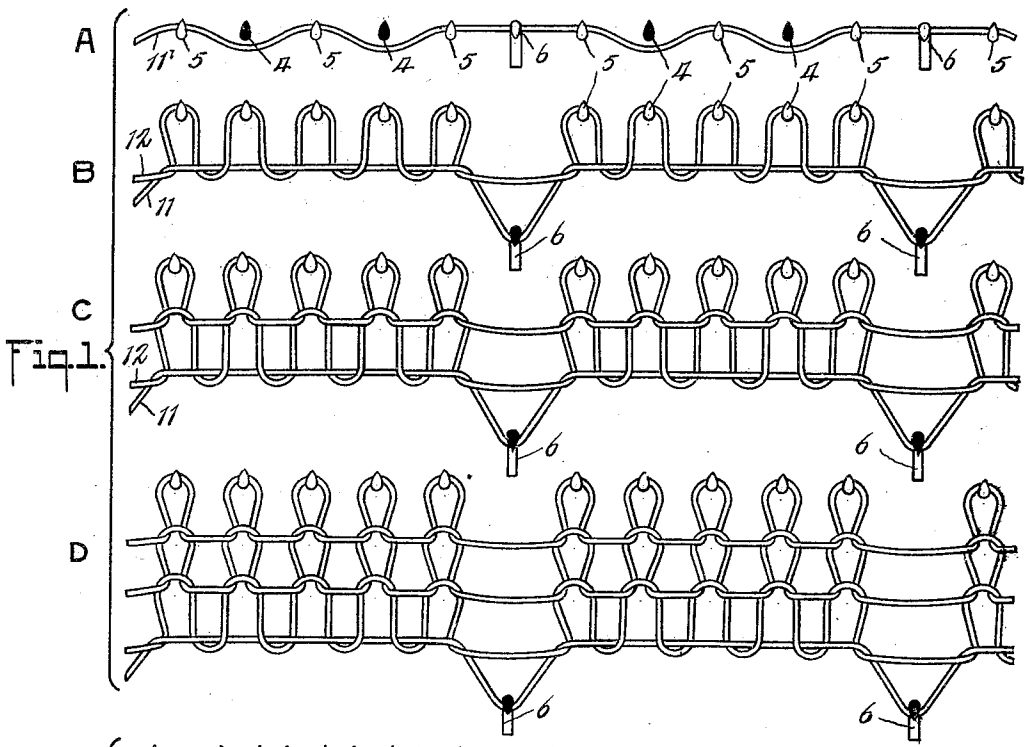


Fig. 1.

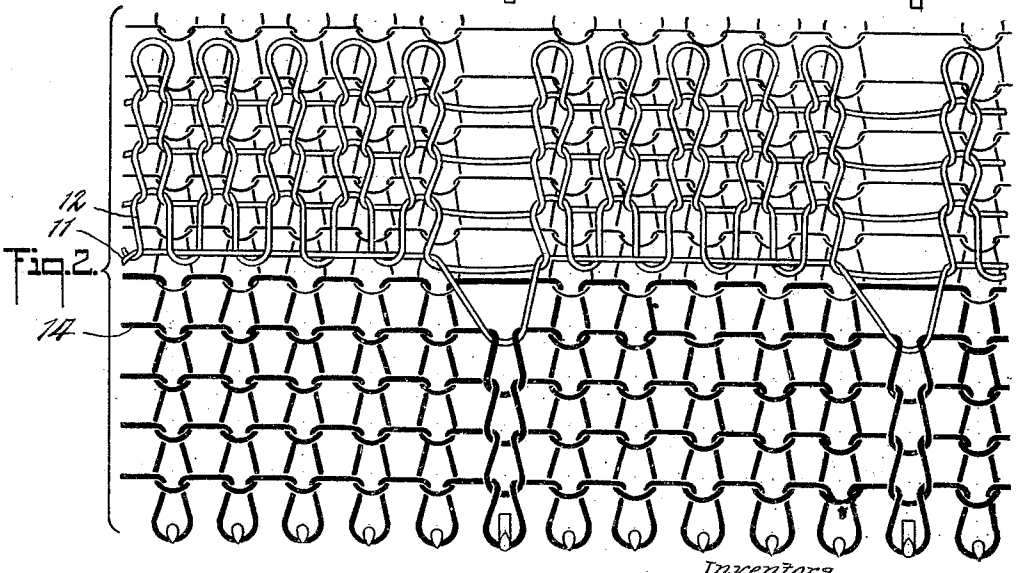


Fig. 2.

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UNITED STATES PATENT OFFICE

ROBERT W. SCOTT, DECEASED, LATE OF BABYLON, NEW YORK, BY CHARLES B. BARNES, OF HINGHAM, MASSACHUSETTS, CHARLES J. McDERMOTT, OF BROOKLYN, NEW YORK, AND HARRISON G. REYNOLDS, OF BOSTON, MASSACHUSETTS, EXECUTORS, ASSIGNORS TO SCOTT & WILLIAMS, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF MASSACHUSETTS

KNITTED STOCKING AND PROCESS FOR PRODUCING THE SAME

Application filed December 20, 1929. Serial No. 415,463.

This invention relates to seamless stockings having legs or tops made of rib fabric and more particularly to seamless welted stockings having a rib other than one and one. One object of this invention is to produce a seamless stocking or stocking top with an improved integrally formed welt in a rib fabric of a more than one and one rib. The stocking is of improved appearance and simple in structure.

In the drawings:

Fig. 1 is a series of diagrammatic plan views of the first few courses of the welt of the stocking as they are knit on the needles, the inactive needles being shown black and the active being shown in outline; and

Fig. 2 is a detail view of the uniting of the selvage of the welt with the leg.

When knitting ribbed stocking or stocking tops having an automatic inturned welt it has heretofore been considered impossible to have a rib fabric in which a rib stitch is alternated with more than one plain stitch, for the reason that the plain stitch portions of the inturned welt would ravel from either direction. According to this invention a welt can be produced in ribbed fabric of a more than one and one stitch which will not ravel from the end first knit.

The making of a stocking according to this invention will now be described when starting to knit from bare needles. For the purpose of illustration, the operations will be described on a Scott and Williams hosiery machine having a secondary set of knitting instruments, such for instance as described in the patents to Robert W. Scott, Number 1,641,101, dated August 30, 1927, and Number 1,641,554 dated September 6th, 1927.

In the drawings the numbers 4 and 5 represent the cylinder needles, and the number 6 the secondary or dial needles. There is a slot for a dial needle opposite every other cylinder needle and two out of three dial needles may be removed, but the cylinder needle opposite every third dial needle is removed from the machine or made otherwise inoperative. This means that there are groups of five cylinder needles separated by a single dial needle in the example shown. Other size groups are also possible. According to one form of this invention a non-ravelling selvage is produced by withdrawing from action during the first course every cylinder needle opposite a dial needle slot, namely, every other cylinder needle. In the drawings these temporarily withdrawn cylinder needles are designated by the number 4, the alternate or permanently active cylinder needles being designated by the number 5. The cylinder needles adjacent the dial needles are permanently active ones. During the first course 11 a dial needle 6 is introduced after every third permanently active cylinder needle, takes yarn and is withdrawn after the first course, holding a bight of the yarn. This course is indicated diagrammatically in the view A of Fig. 1. This taking of a bight from the first course by the dial needles is preliminary to automatic formation of an inturned welt. Beginning with the second course 12, the temporarily inactive cylinder needles 4 come into action between the permanently active cylinder needles 5 except opposite the retired dial needles 6 (see view B of Fig. 1), and the knitting of the welt proceeds on these groups of five cylinder needles separated by a retired dial needle holding a bight of the first course 11. Only every other loop in the second course 12 was drawn through a loop in the first course 11, thus producing a non-ravelable fabric and yet bights of yarn are available to make an automatic inturned welt. It will be apparent that the fabric thus produced consists of sections of plain fabric five stitches wide separated by a single drop stitch giving a mock rib effect, as shown in the views C and D of Fig. 1.

When the machine has completed the welt and is ready to knit the dial needle bights of the starting course 11 into the leg it is merely necessary to project the dial needles 6 in time to clear the latches of their bights of the starting course and take the yarn and knit at the course 14. This will interknit the starting course with the course 14 as shown in Fig. 2. The different ways in which yarns are shown in this figure are merely to make the drawing more legible and is not intended to indicate yarn changes.

The ribbed leg is then knit with a 5 x 1 rib until the heel is reached. The stitches carried by the dial needles located on the heel side of the machine can then be transferred to the cylinder needles opposite them which have been out of action until this moment. The transfer can be effected as set forth in the Robert W. Scott Patent Number 1,641,454, dated September 6, 1927. The dial needles on the instep side of the machine can be transferred at the same time or at the end of the instep as desired, and the stocking finished in the usual manner. It will be apparent that any formation of rib from a 2 x 1 rib to one much wider than that above described, can be employed.

This invention also can be used in the making of ribbed tops to be subsequently transferred to the needles of a knitting machine, or for other uses such as cuffs, collarets or welted borders such as for sweaters and underwear, and the fabric can either be made by starting on the naked needles or can be produced in articles made in string formation. In making tops for ribbed hosiery this is accomplished by removing the needles 4 from action for one course, and on the next course returning these needles to action and withdrawing the dial needles 6. These dial needles should then be held inactive with the bights of yarn upon them until the desired length of the welt is knit, after which they are again brought into action, as shown in Fig. 2, to knit the balance of the rib top. The sections are either cut apart or parted by a draw-string immediately preceding the "anti-run-back" course, resulting in the same structure as shown in Fig. 2 when the articles have been separated. This same method can be followed in making complete stockings in string formation and subsequently parting them, it being necessary in all the forms of this invention to have the anti-run-back or selvage course knit before the welt is made in order to prevent ravel. If in the case of a stocking the welt was made last the anti-run-back feature would not prevent ravelling from the end knitted last.

Previously in any such rib structure as that described, it has never been possible to make an inturned interknitted welted formation which would not fray or ravel.

What is claimed is:

1. A knit garment having a body portion having ribbed wales separated by plain portions each of a plurality of wales and an integral welt portion, the first course of the welt being an anti-run-back course and interknit with the leg at the ribbed wales.

2. A knit garment having a body portion having ribbed wales separated by plain portions each of a plurality of wales and an integral welt portion with a selvage in which bights from the initial course are united to rib wales of the body portion.

3. A knit fabric having a body portion having ribbed wales separated by plain portions each of a plurality of wales and an integral welt portion with a selvage in which bights from the initial course are united to rib wales of the body portion.

4. A knit garment having a body portion having ribbed wales separated by plain portions each of a plurality of wales and an integral welt portion having drop stitches in the wales where the body portion has rib stitches, said welt having a selvage and bights from the initial course of that selvage being united to rib wales of the body portion.

5. A knit fabric having a body portion having ribbed wales separated by plain portions each of a plurality of wales and an integral welt portion having drop stitches in the wales where the body portion has rib stitches, said welt having a selvage and bights from the initial course of that selvage being united to rib wales of the body portion.

6. The process of knitting a fabric comprising feeding yarn to alternate needles for a setting-up course, certain of said needles being rib needles, withdrawing said rib needles from action holding a bight of yarn from the setting-up course, then knitting the welt on all the other needles, uniting the rib needle bights of the setting-up course with the body of the fabric by putting the rib needles into action and then knitting the ribbed body of the fabric.

7. The process of knitting a fabric comprising feeding yarn to alternate needles for an anti-run-back course, certain of said needles being rib needles, withdrawing said rib needles from action holding a bight of yarn from the anti-run-back course, then knitting the welt on all the other needles, uniting the rib needle bights of the anti-run-back course with the body of the fabric by putting the rib needles into action and then knitting the ribbed body of the fabric.

8. The process of knitting a seamless stocking having ribbed wales separated by plain portions each of a plurality of wales comprising knitting a selvage by taking an initial course of yarn on alternate needles including dial needles, separated by two or more plain needles, knitting a welt on all the needles except the rib needles and then uniting with the leg the loops of the initial course held by the dial needles by knitting on the dial needles.

In testimony whereof we have signed our names to this specification.

CHARLES B. BARNES,
CHARLES J. McDERMOTT,
HARRISON G. REYNOLDS,
Executors of the Estate of Robert W. Scott, Deceased.