

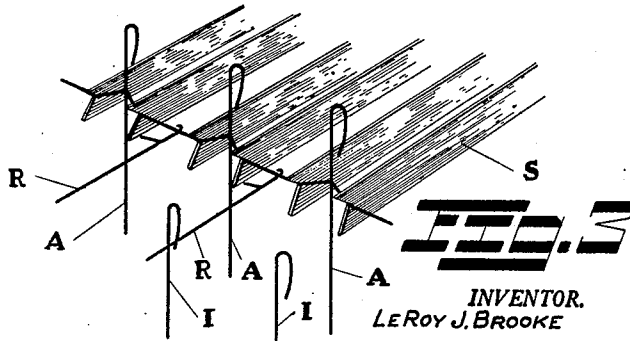
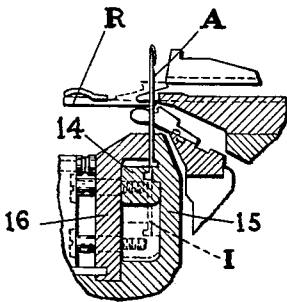
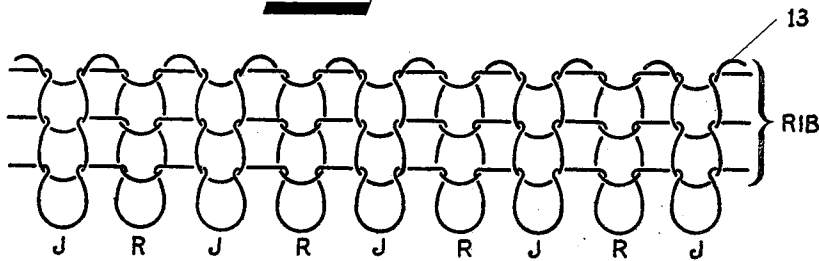
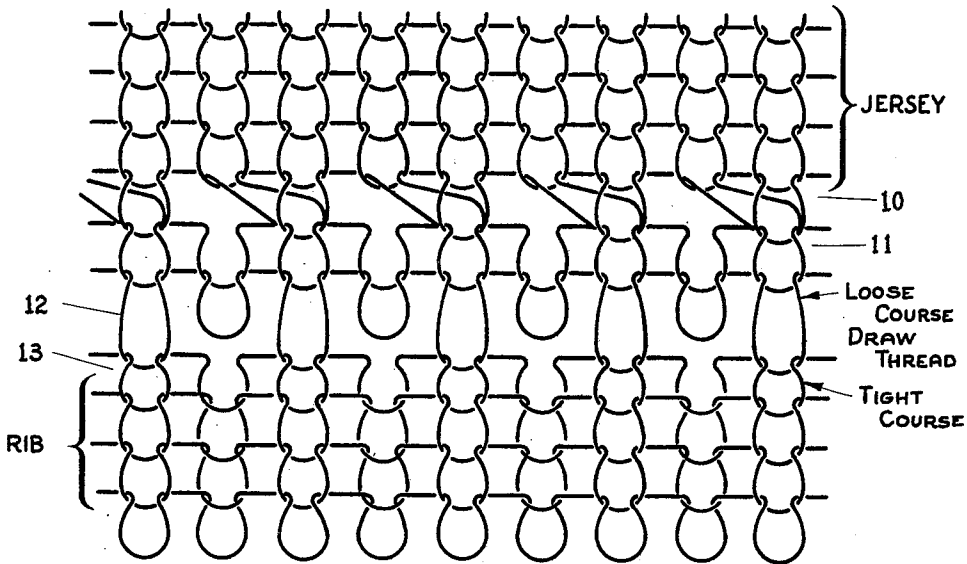
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METHOD OF FORMING A SELVAGE IN KNITTING FABRICS

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**METHOD OF FORMING A SELVAGE IN  
KNITTING FABRICS**

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This invention pertains to a method of forming a selvage at the start of rib knitted material formed by united needle knitting.

It is a general object of the invention to devise a method for forming in a very simple and expeditious manner, a selvage at the start of rib knitted work, more particularly 1 x 1 rib material formed by united needle knitting, e.g., in a full-fashioned type knitting machine.

It is a further object of the invention to form such a selvage at the start of rib work knitted in continuation of or at a transition from jersey material to rib work.

Further objects will become apparent from the following more detailed disclosure.

In knitting all types of material it is very often desirable to start a knitted article by forming a course which will be locked against raveling, otherwise known as a selvage. This is a comparatively simple matter in independent needle knitting, but when a united needle machine is used, it is not practicable to start on bare needles and by methods in use, loops must be removed from intermediate needles by appropriate means and the cycle has required many courses. This all involves control members or pattern steps all too essential for other purposes and also, may well involve added time and/or waste courses of work not a usable part of the fabric in arriving at a suitable result. While such methods are entirely workable, it is desirable to simplify the procedure, to take up as little of the available selectivity or patterning possibilities built into the machine as possible and especially to cut down the time required to form any given article.

According to the invention which in its broader aspects relates to the formation of a selvage at the start of 1 x 1 rib material formed by united needle knitting and more particularly, to the production of such selvaged work formed in continuation of jersey knitted work, the first 1 x 1 course in a fabric, for example, a rib cuff of a sock or sweater, is locked by a course of loops shed at the formation of an initial rib course. Since the parts of the fabric or the articles must eventually be separated, a draw or separation course is preferably knitted in the transition from jersey to rib knitting. This may be a course just preceding the selvage and if desired, an anti-run back course or courses may precede this draw course.

The invention will be described in greater detail by reference to a specific embodiment thereof as illustrated in the accompanying figures of drawing, wherein:

FIG. 1 is a diagrammatic showing of a section of fabric in accordance with the invention.

FIG. 2 is a similar showing the rib portion of the fabric and the manner in which the initial course is locked to form a selvage.

FIG. 3 is a perspective view showing the manner in which needles are manipulated at the initial course at the start of rib work.

FIG. 4 is a sectional view showing construction of needle bars in which jersey needles are retained.

Referring to FIG. 1, a view showing a section only in which loops are, of course, shown to greatly enlarged scale, the fabric knitted from the top down has at first, three courses of jersey work those courses being in continuation of others. The yarn may be of any suitable material depending upon the use to which the fabric is eventually to be put. Since in a transition from jersey

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to rib, and in a preferred usage, the selvaged rib work is to constitute a cuff or the like for a separate article, it is desired to provide for separating these articles expeditiously as by a draw thread. Before incorporating that, however, one or more anti-run back courses are formed.

Here such a course 10 is knitted first as a plain jersey course and intermediate loops are then laterally transferred in a known manner and by known means. This then constitutes a block in the fabric against running. More of such anti-run courses may be knitted if desired. Other forms of knitting for the same general purpose may be utilized, e.g., tuck stitches or spread loops, these all being known per se.

After the last anti-run back course, a plain course 11 intervenes before a course 12 which is knitted as a loose course and of so-called hard yarn. This may be of nylon or any strong, slippery yarn easily withdrawn and is preferably formed by drawing loops on all needles after which a picot bar or the like is brought into action to remove loops from intermediate needles. Preferably, the loops in this separation course which are to remain and interconnect the two sections of fabric (plain and rib) are those drawn by needles A, FIG. 3, which are identified with those wales which are drawn to the front throughout the fabric. Loops drawn on intermediate needles I are dropped off and in the continuing rib work stitches in these wales will be drawn to the back. These needles I are mounted in a movable section 14 of a more complete needle bed having a section 15 in which needles A are fixed. The section 14 slides vertically in a space within the bed section 15 and a closing or retaining plate 16. Thus when moved to uppermost position, all needles act as a group to knit jersey and when needles I are lowered to the dotted line position, FIG. 4, the needles A act in conjunction with rib needles R to knit 1 x 1 rib work. Further description of the mechanism itself is not given here since that is all described and claimed in co-pending application Serial No. 699,345, filed November 27, 1957.

With the same thread feeding, a next course 13 is knitted and this course is drawn by alternate needles A and rib needles R. The latter are preferably latch needles and are controllable so as to be brought into action at the start of rib work and may be retired at completion thereof. They align with intermediate needles I.

Sinkers S are employed in the usual way to measure loops during jersey work, there being one sinker in operation between each pair of needles A and I. At the start of rib work or when measuring yarn for course 13, needles I are withdrawn but all sinkers still function and are caused to measure enough yarn for jersey wales drawn by needles A; also, enough for rib wales which are knitted by needles R. The needles take the yarn extended between two adjacent sinkers and later draw loops by robbing from those drawn at needles A. The latter, of course, initially have an excess for that purpose.

In all such machines yarn changes are easily effected so that the substitution of the hard yarn and return to cotton or other material is accomplished in a known way.

The extent of rib work or jersey may involve a few or many courses and here the transition between the two which gives a selvage is limited to a minimum of courses so long as an anti-run back area is desired. Variation may be resorted to and details will depend upon the material knitted and purpose for which the fabric is to be used. At this course the stitch length is markedly tightened so as to produce a tight course or one having just enough material to extend through as a selvage lock and permit the maximum fabric extension required.

The following courses designated RIB are, as shown, 1 x 1 rib work and the first of these will have the hard yarn, tight course 13 threaded through it very much as

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shown in FIG. 2 which depicts the fabric after draw course 12 has been cut and pulled out to separate the material. At the bottom of this figure the letters J and R are used to denote wales drawn to the front and back, respectively, or those containing jersey loops and rib loops as the case may be.

While one embodiment of the invention has been disclosed, it is to be understood that the inventive concept may be carried out in a number of ways. This invention is, therefore, not to be limited to the precise details described, but is intended to embrace all variations and modifications thereof falling within the spirit of the invention and the scope of the claims.

I claim:

1. A method of forming a selvage at the beginning of a 1 x 1 rib fabric knitted by united needle knitting and in continuation of jersey knitted material which comprises the steps of terminating a final course of jersey material by drawing loops at each wale therein simultaneously, forming drop stitches by removing intermediate loops from their needles and withdrawing those needles from action, then forming a following course by drawing loops in each alternate wale as a jersey loop and in each intermediate wale as a rib loop and continuing this throughout a rib section of the fabric whereby said last source of jersey loops may be withdrawn to separate the fabric sections and leave a selvage at the rib section comprising said following course.

2. A method of forming a selvage at the beginning of a rib fabric knitted by united needle knitting and in con-

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tinuation of jersey knitted material by drawing loops at each wale therein simultaneously, forming drop stitches by removing intermediate loops from their needles and withdrawing those intermediate needles from action, then continuing knitting by measuring loops about the remaining or alternate needles only, bringing rib needles into action and knitting a rib section by drawing loops in each alternate wale as a jersey loop and in each intermediate wale as a rib loop and continuing this throughout said rib section of the fabric whereby said last course of jersey loops may be withdrawn to separate the fabric sections and leave a selvage at the rib section comprising the first course in said rib section.

3. A method as defined in claim 2 wherein before knitting said last course of jersey knitted material at least one course is formed with spaced loops therein displaced to form an anti-run back section.

4. A method as defined in claim 2 wherein before knitting said last course of jersey knitted material at least one course is formed with spaced loops laterally transferred to form an anti-run back section.

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