

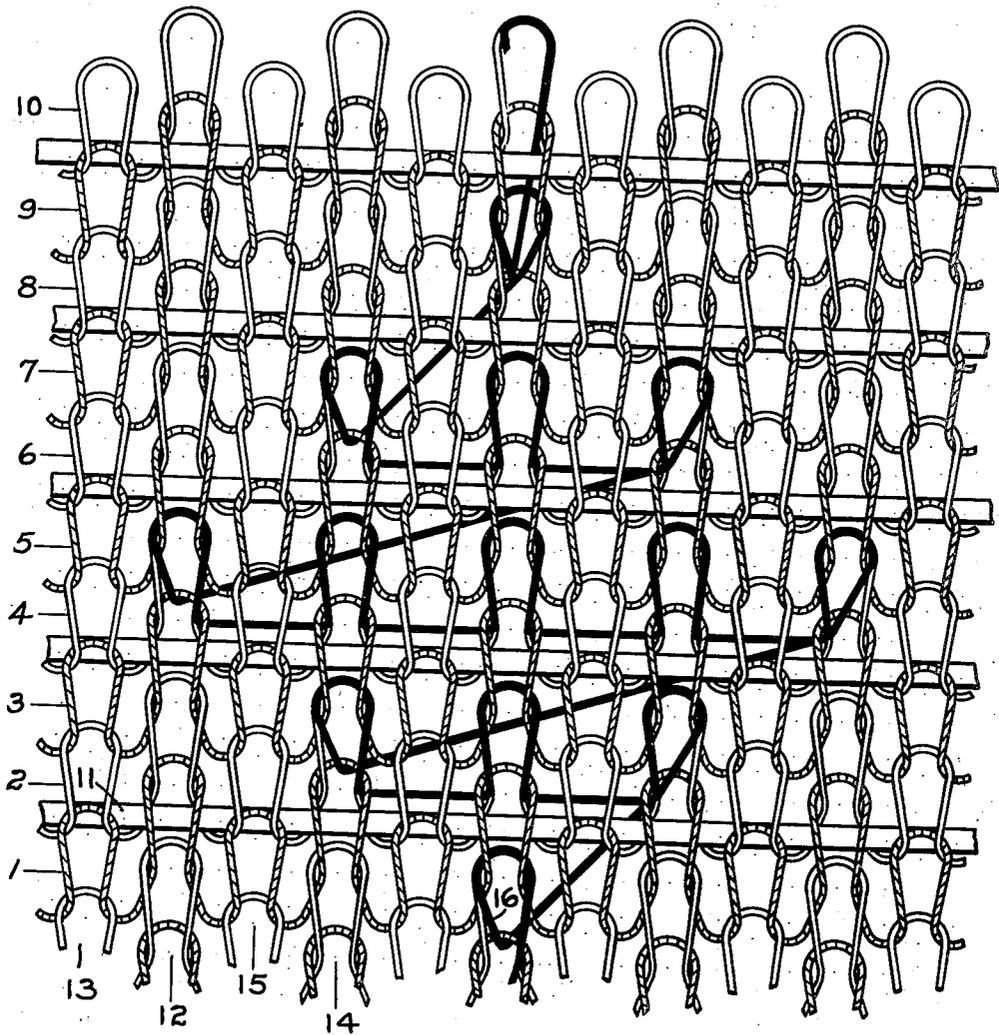
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KNITTED FABRIC AND METHOD OF KNITTING

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KNITTED FABRIC AND METHOD OF KNITTING

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This invention concerns a method of knitting and the fabric produced thereby. The method involves the knitting of a fabric in which an elastic yarn is incorporated at spaced courses and wherein the fabric is also ornamented with a true wrap pattern at the same areas wherein said elastic yarn is incorporated.

The figure shows a section of fabric knitted in accordance with the invention, said fabric being greatly enlarged.

It has become a more or less common practice in the knitting of hosiery, especially the tops of certain classes of hosiery, to incorporate a rubber or elastic yarn at spaced courses. This elastic yarn may be inlaid in the fabric or may be knitted in conjunction with other threads, being knitted at spaced needles such as every fourth needle in certain instances, and in the event of laying-in as practiced in plain fabric, the said elastic yarn may be fed to alternate needles and be caused to pass behind intervening needles. In rib fabrics the said elastic yarn may be inlaid in accordance with the usual practice. In certain types of hosiery such as children's wear it is quite common to ornament the top of the stocking or sock with a true wrap pattern, this applying to both plain and rib work. In the event the top is to have elastic yarn incorporated therein in spaced courses, it is inevitable that the elastic must float from course to course unless it is cut and taken within a binder at the termination of each course wherein it is included. Obviously cutting and binding is impractical both as a method and in so far as the product is concerned so that in normal practice, the floats from course to course must necessarily be present. When knitting a wrap pattern in the areas wherein this elastic thread is to be included the floats of the wrap yarns will become entangled with the floats of the rubber thread and it will be impossible to have both rubber in spaced courses and a true wrap pattern in the ordinary sense except by employing very special attachments on the machine. It is the purpose of this invention to incorporate the rubber thread in spaced courses and to knit a true wrap pattern in the areas wherein said rubber thread appears without using special mechanism and without allowing floats of the rubber thread to interfere with the wrap threads or the floats thereof.

The method involves the use of a multi-feed knitting machine and feeding of the rubber thread at one of the feeds, thus introducing the rubber in spaced courses but avoiding the necessity of floating from course to course as in single

feed machines. The elastic yarn will be incorporated in a helix progressing from one point where introduced to another point where withdrawn, the extent through which it will be incorporated depending upon the purpose, type of hosiery being knitted, weight of the elastic, tension and other considerations. In a two feed machine the elastic would appear in alternate courses, and, of course, it is necessary to use as many feeds as the number of courses through which it is desired to space the rubber.

The wrapping mechanism to be employed may be of conventional type, although no particular wrapping means is necessary to be employed. When employing an eccentric wrap of the Banner type that wrapping mechanism is to function at one of the feeding stations, preferably the feeding station at which rubber is not fed, so that the wrap pattern will be imposed upon loops in courses which do not include the rubber. The wrap yarns will float from course to course skipping over those courses in which the rubber is incorporated and presenting a pattern at the face of the fabric in alternate courses. In the finished fabric this pattern may be of any desired shape or configuration but will not be solid in the sense that it is knitted in every course throughout the figure. Any needle selecting means such as commonly employed may be used for selection of needles to knit the wrap threads and an entirely different selecting means may be employed to raise those needles which are to take the rubber thread before arriving at the knitting point for those courses in which the rubber thread is incorporated. It may be found desirable to wrap on only those needles which do not take the rubber thread, or alternatively, on those that do take the rubber, although the invention is by no means limited in such respect. A machine might be so constructed merely for purposes of simplicity.

With some types of wrapping mechanism such as involve the use of individual needle wrapping fingers, concentrically arranged, it is quite within the scope of this invention to impose the wrap design on the fabric at all the courses thereof, and thus to produce a solid pattern. In that event selection of needles for the wrapping would be evident at each feed and the needle wrapping fingers would be caused to wrap the yarns about the needles at each of the feeds. To prevent the loading up of needles at the feed at which the rubber is fed, in the event the rubber is to be taken within the hooks of some of the needles and actually knitted, the selection at that feed may

fail to function upon any needles which are actually to knit the rubber.

In true rib fabrics the wrap pattern is to be imposed upon cylinder needles only, and as the fabric would appear when unstretched, such a wrap design would present a solid appearance.

Referring to the figure of drawing, one example is shown wherein a basic fabric is knitted on a two feed machine, a rubber yarn being inlaid at one of the feeds and a wrap pattern being knitted at the opposite feed. The invention, as before stated, applies equally to fabrics knitted on machines employing more than two feeds although a two feed proposition is herein disclosed for reasons of simplicity and since the principle is as well illustrated thereby as it would be if applicant resorted to a more intricate arrangement. The courses 1, 3, 5, 7 and 9 herein shown as knitted of a yarn distinguished by cross-hatching are to be knitted at one feed and courses 2, 4, 6, 8 and 10 are to be knitted at the opposite feed, this yarn being unshaded to present a contrast with that first mentioned. An elastic thread 11 either covered or uncovered such as Lastex is to be incorporated in the odd numbered courses. This elastic thread is herein shown as inlaid, that is, the thread being taken within the hooks of needles knitting in wales 13, 15 etc., and passing behind needles knitting wales 12, 14 etc. While the needles knitting said wales 13, 15 are stated to take the elastic in their hooks, they do not knit that elastic yarn but cast it off without knitting, this being accomplished by clearing the latch prior to knitting, or by feeding below the latch, all as understood in the art with respect to incorporating rubber, see Getaz Patent 2,054,217. A wrap thread 16, shown shaded for purposes of identification is knitted in certain wales and certain courses to form a simple pattern, one figure of which is shown in the illustration. This wrap thread is knitted only in the even numbered courses, and floats as at 17 past the odd numbered courses and behind the rubber thread 11. By means of needle selection the wrap thread is taken by different numbers of needles in different courses, this all being a matter of selection with respect to the particular pattern desired. Here the selection has been applied to alternate needles only, those knitting in wales 12, 14 etc., although it is quite possible and entirely within the scope of the invention to impose these wrap thread loops upon any desired stitches in the even numbered courses. Likewise, by the means and method above described said wrap thread might also be knitted at the odd numbered courses thus producing a solid pattern effect.

The invention is particularly applicable to knitting stocking tops such as in children's wear wherein a garter effect is desired in addition to the ornamentation, however, it is by no means limited in that respect since it may be employed in any type of fabric in which it is found to have possibilities. The invention is to be limited only by the scope of the appended claims.

I claim:

1. A knitted fabric comprising a plain knitted base fabric knitted of a plurality of yarns, an elastic yarn incorporated in said base fabric in courses spaced apart by at least one intermediate course and without floats walewise of the fabric, 70

and wrap threads knitted throughout certain areas of said fabric to produce a true wrap pattern thereon.

2. A plain knitted stocking top comprising a base fabric knitted of a plurality of yarns, each yarn appearing in spaced, recurrent courses, an elastic yarn incorporated in the courses in which one of said base yarns is knitted, and wrap threads knitted to form a true wrap pattern in predetermined areas throughout the section of the fabric in which said elastic yarn is incorporated.

3. A plain knitted stocking top comprising a base fabric knitted of a plurality of yarns, said yarns appearing in spaced, recurrent courses, an elastic yarn incorporated by passing in front of and behind alternate wales throughout the courses knitted of one of said yarns, and wrap threads knitted to form a true wrap pattern in predetermined areas throughout the section of said stocking top in which said elastic yarn is incorporated.

4. A method of knitting including the steps of forming a base fabric by alternating a plurality of yarns throughout the knitting of recurrent plain courses, introducing an elastic yarn with one of said yarns so that said elastic thread will be held at some of the wales in those courses in which it is introduced, and knitting wrap threads to form a true wrap pattern throughout predetermined areas wherein said plurality of yarns and elastic yarn are knitted and incorporated as aforesaid.

5. A method of knitting a stocking top including the steps of forming a base fabric by alternating a plurality of yarns to knit the same in spaced, recurrent plain courses, introducing an elastic yarn with one of said base yarns to be incorporated in the courses in which said base yarn is knitted and to be held at spaced wales in those courses, and throughout the section of the stocking top wherein said plurality of yarns and said elastic yarn are incorporated as aforesaid, knitting wrap threads at predetermined areas to form a true wrap pattern.

6. A plain knitted stocking top comprising courses knitted of a plurality of yarns recurring in succession, an elastic yarn incorporated with one of the said yarns in some of said courses, and a true wrap thread pattern knitted in predetermined sections of the fabric in courses of the other of said yarns and floated over courses wherein the elastic yarn appears.

7. A knitted fabric comprising a plain knitted base fabric knitted from a plurality of yarns and having an elastic yarn, incorporated to be held at spaced wales in alternate courses, a wrap pattern knitted in predetermined areas in said fabric and being confined to courses in which no elastic yarn is incorporated.

8. A plain knitted fabric comprising a base fabric knitted from two or more different yarns, each yarn appearing in the fabric in spaced, recurrent courses, an elastic thread incorporated to be held at spaced wales in courses knitted from one only of said base yarns, and wrap threads knitted to form a true wrap pattern in areas where said elastic thread is incorporated at only those courses in which the said elastic thread is not incorporated to be held.

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