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A. O. HANISCH

2,269,089

KNITTED FABRIC

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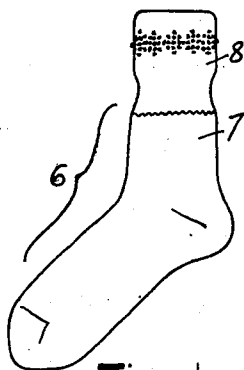


Fig. 1.

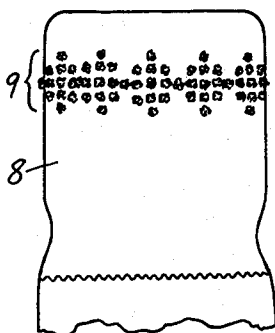


Fig. 2.

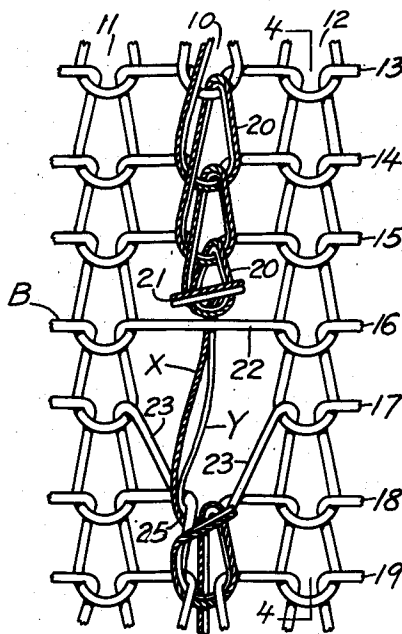


Fig. 3.

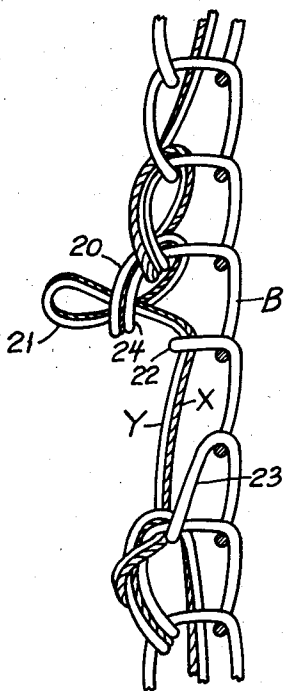


Fig. 4.

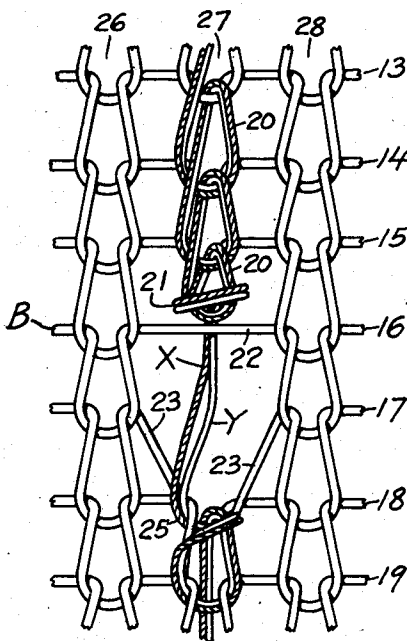


Fig. 5.

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KNITTED FABRIC

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10 Claims. (Cl. 66—172)

The object of the present invention is a knitted fabric, either rib or plain, ornamented with raised special stitch constructions. The fabric may be flat or tubular and may be used as piece goods or may be knitted as integral parts of a stocking such as the top thereof.

The present invention is an improvement over that shown in application Serial Number 304,314, filed November 14, 1939, for a raised ornamental special stitch construction in a knitted fabric and the resulting fabric and method of making the same.

In the drawing:

Figure 1 is a view of a stocking embodying my invention.

Figure 2 is an enlarged view of the top of the stocking.

Figure 3 is a detailed view of the stitch structure of a portion of the top of the stocking.

Figure 4 is a sectional view on line 4—4 of Figure 3, and

Figure 5 is a view similar to Figure 3 showing the invention in plain fabric.

As fully described in the above identified application, the invention therein essentially consists of forming the raised stitch construction in a knitted fabric by dropping a plated stitch, that is, a ground stitch of a body yarn upon which a wale wise extending wrap yarn has been plated, from the needle making the same, the needle thereafter continuing to knit. Variations are shown in said application in which special stitch constructions are provided in the adjacent dial needle wales but it is to be understood that the dropped plated stitch alone is capable of providing the raised stitch without the running back of the stitches usually resulting from a dropped plain stitch. The body stitch portion of the dropped plated stitch does run under tension but the plated stitch portion of the dropped plated stitch does not tend to run and this plated stitch portion not only causes the raised design effect but also effectively keeps that wale from running back for all normal purposes. Any tension or pull on the fabric is transmitted to the dropped plated stitch in such a way as to cause the body stitch portion to run but the same force is not transmitted to the plated stitch portion in like manner and consequently it does not normally tend to run, in fact such action on the fabric makes the dropped plated stitch portion more secure against running as will be explained.

Essentially the present invention consists of using two or more wale wise extending wrap yarns where a single one was used as shown in the said application for reasons to be explained.

In Figure 1 a tubular stocking is shown at 6 having the usual leg 7 with attached foot portion and the top 8 which may be of tubular plain

or tubular rib fabric. As here shown the raised stitch design areas 9 are in the top portion but obviously these could be at any place in the stocking where the design is desired. In Figure 3 is shown a detailed stitch diagram of the fabric, the same being diagrammatic with the fabric distended. The character 10 indicates a cylinder or outside wale of rib fabric flanked on each side by the dial or inside wales 11 and 12. The body yarn which may consist of one or more strands is indicated at B and the wale-wise extending plating yarns for the wale 10 are indicated at X and Y. The yarns X and Y may be of contrasting colors or may be of the same color, the principal reason for the different colors in the drawing being clearness in the showing thereof. More than two plating yarns may be used and the yarns may be of different diameter if so desired. With the use of a plurality of wrap yarns in place of the single wrap yarn of said application, it is preferred that each of the plurality of yarns be of a smaller diameter than that of the single wrap yarn.

In the course 13 knitted of yarn B the body stitch in wale 10 is shown plated with both wrap yarns X and Y to form the plated stitch 20. The courses 14, 15 and 16 are similarly made on the knitting machine and after this portion of course 16 is made and is still on the needles, the cylinder needle forming the wale 10 is cast off without taking yarn to drop the plated stitch therefrom. Of the dropped plated stitch the body yarn portion thereof ravel back under tension and becomes the float 22 and the plated stitch portion 21 remains extending through the plated stitch 20 of course 15. Tension or pull on the fabric tends to cause the body stitch 24 of the plated stitch 20 of course 15 to ravel back but the projection of the wrap yarn stitches 21 therethrough prevents such action, the stitch 24 becomes smaller under such tension or pull and tightly encircles the base of the wrap yarn stitches 21. Such tension or pull on the fabric is not normally transmitted to the wrap yarns as they are knitted in locally on the body fabric base so that there is no force acting to ravel the wrap yarn stitches 21 and consequently the dropped wrap yarns project outwardly from the fabric as a raised ornamental stitch construction. It is of course possible to cause the stitch 21 to ravel by pulling directly on the wrap yarns in the area adjacent to said stitch 21 but such action practically never occurs in the normal use of the fabric, but even if it did occur and there was a plated body stitch 20 in course 15 as shown, the body stitch portion thereof would ravel and the body stitch of course 14 would act to prevent further ravelling. In the normal use of the fabric the continued stretching thereof causes

the body yarn loop 24 to become smaller and smaller and to more tightly encircle the projecting plating stitches 21.

After the dropping of the stitch from the cylinder needle forming the wale 10 in course 16, knitting proceeds and course 17 is formed, the mentioned needle now bare starting up knitting again and this results in the tuck 23 of body yarn taken by the bare needle in course 17 and through which a loop is drawn in course 18. The result of such a starting up on a bare needle is a hole in the fabric as can be seen in Figures 3 and 5 and is a well known effect in the art. As shown, the bare needle in course 17 received the body yarn B and also the wrap yarns X and Y, so that the loop formed in course 18 was drawn through both the tucked yarn B and the wrap yarns X and Y at 25 and this acts to tie in the wrap yarns immediately below the opening in the fabric. As shown, the stitch formed in wale 10 of course 18 is plated but this is optional and in subsequent courses the plating depends upon the design in the fabric.

By using two wrap yarns X and Y the opening is more effectively covered than when a single wrap yarn is used as the two yarns do not lie closely adjacent each other but spread out to break up the open space. The drawing shows the stitches and the wrap yarns distended for illustrative purposes and when the fabric is in a normal state the wrap yarns extend in convolutions over the opening. In the stitch 21 the use of two wrap yarns produces a more effective raised design than when a single wrap yarn is used as there are now a plurality of projecting stitches which gives a more desirable raised stitch design effect.

In Figure 5 the invention is shown applied to plain knitted fabric having the plain wales 26, 27 and 28 and in which the wale 27 is similar to the wale 10 of Figure 3. It is obvious that the invention is equally useful with plain fabric and the reference characters on Figure 5, other than those indicating the wales, are the same as those on Figure 3 so that the description above set forth with respect to Figure 3 may be read upon the showing in Figure 5.

I claim:

1. A stitch construction intermediate the ends of a wale of a knitted body yarn fabric having a plurality of walewise extending wrap yarns comprising in a course thereof a free loop of said wrap yarns extending outwardly through an otherwise free loop of said body yarn to ornament said fabric and to prevent the body yarn from raveling.

2. A stitch construction in a wale of a knitted body yarn fabric having a plurality of walewise extending wrap yarns comprising in a course thereof a loop of body yarn which is the end stitch of a series of stitches in said wale, a free loop of said wrap yarns extending outwardly through said end loop to ornament said fabric and to prevent said series of stitches from raveling and a series of body yarn stitches in succeeding courses in said wale.

3. A stitch construction intermediate the ends of a wale of a knitted body yarn fabric having a plurality of wrap yarns individual to said wale comprising in a course thereof a free loop of said wrap yarns extending outwardly through an otherwise free loop of said body yarn to ornament said fabric and to prevent the body yarn from raveling.

4. A stitch construction intermediate the ends of a wale of a knitted body yarn fabric having two wrap yarns individual to said wale comprising in a course thereof a free loop of said wrap yarns extending outwardly through an otherwise free loop of said body yarn to ornament said fabric and to prevent the body yarn from raveling.

5. A stitch construction intermediate the ends of a wale of a knitted body yarn fabric having a plurality of wrap yarns individual to said wale comprising in a course thereof a free loop of said wrap yarns extending outwardly through an otherwise free loop of said wrap yarns on said body yarn to ornament said fabric and to prevent the body yarn from raveling.

6. A stitch construction intermediate the ends of a wale of a knitted body yarn fabric having a plurality of wrap yarns individual to said wale comprising in a course thereof a float of body yarn across the same and a free loop of said wrap yarns, said free loop of wrap yarns extending outwardly through an otherwise free loop of body yarn of the preceding course to ornament said fabric and to prevent the body yarn from raveling.

7. A stitch construction as set forth in claim 6 in which the float of body yarn comprises a raveled dropped stitch of body yarn.

8. A stitch construction in a wale of a knitted body yarn fabric having a plurality of wrap yarns individual to said wale comprising in a course thereof a loop of body yarn which is the end stitch of a series of stitches in said wale, a free loop of said wrap yarns extending outwardly through said end loop to ornament said fabric and to prevent said series of stitches from raveling and a series of body yarn stitches in succeeding courses in said wale.

9. A stitch construction in a wale of a knitted body yarn fabric having a plurality of wrap yarns individual to said wale comprising in a course thereof a loop of body yarn which is the end stitch of a series of stitches in said wale, a free loop of said wrap yarns extending outwardly through said end loop to ornament said fabric and to prevent said series of stitches from raveling and a series of body yarn stitches in succeeding courses in said wale, an opening preceding said last named series of stitches, said wrap yarns extending in spaced apart relation from said free loop of wrap yarns across said opening to and being incorporated in one or more of the initial stitches of said second named series of stitches.

10. A stitch construction in a wale of a knitted body yarn fabric having a plurality of wrap yarns individual to said wale comprising in a course thereof a loop of body yarn which is the end stitch of a series of stitches in said wale, a free loop of said wrap yarns of the next course extending outwardly through said end loop to ornament said fabric and to prevent said series of stitches from raveling, a float of body yarn across said next course, in the following course said body yarn being tucked as the first stitch in a series of body yarn stitches in succeeding courses, an opening preceding said tuck stitch, said wrap yarns extending in spaced apart relation from said free loop of wrap yarns under said float and across said opening to and being incorporated in said tuck stitch.

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