Jan. 15, 1957

V. LOMBARDI KNITTED FABRIC 2,777,311

Filed Sept. 30, 1952

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FIG. I.

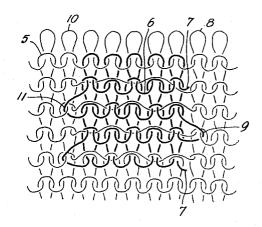
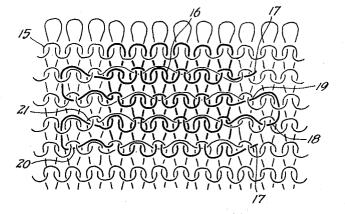


FIG. 2.



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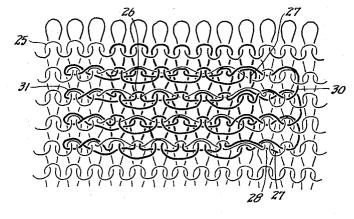


FIG. 4

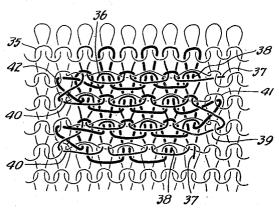
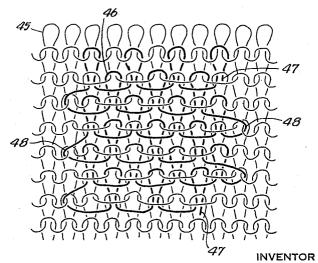


FIG. 5.



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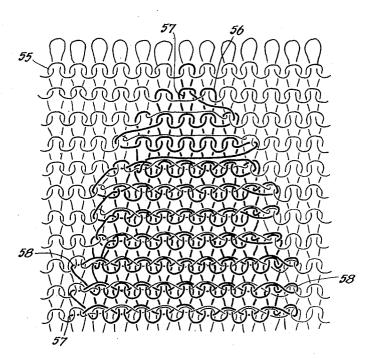
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FIG. 6.



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2,777,311

KNITTED FABRIC

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16 Claims. (Cl. 66—201)

This invention relates to knitted fabric, and more 15 particularly to semi-intarsia fabric, i. e. fabric including a body yarn and a wrap yarn.

In the formation of design fabric, fabric which is reenforced in certain portions, fabric with bulge portions, and other types of fabric, the use of body yarn and wrap yarn has proved economical and effective, but in the past the full utilization of such fabrics has been prevented by such factors as tendencies of the fabric to pull apart slightly at certain points to form runs or by the bunched-up effect of plating, by lack of variation of the location of design portions, by difficulties in the arrangement or individual strands composing the wrap yarn, or by other deficiencies.

With the foregoing and other considerations in view, the present invention contemplates the production of semi-intarsia and other fabrics wherein the various yarns are incorporated into the fabric in various of certain particularly desirable manners and in various of certain particularly desirable relationships.

The invention accordingly comprises a knitted fabric ³⁵ possessing the features, properties, and the relation of elements which will be exemplified in the article hereinafter described and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawings, in which:

Fig. 1 is a diagrammatic rear view of one form of fabric embodying the invention; and

Figs. 2-7 are similar views of other forms of knitted fabric embodying the invention.

In the form of construction shown in Fig. 1, there is exemplified a fabric comprising body yarn 5 which is knit in jersey loops in the exemplified piece of fabric except in a design portion 6 in which a wrap yarn 7 is knit and wherewith the body yarn is inlaid. The wrap yarn 7 extends back and forth across the portion 6 and, in order to prevent the formation of a space having the appearance of a "run" or the equally disadvantageous bunching which results from plating at each side of the design portion 6, the yarn 7 is caught without knitting in every other course in wale 8 of body yarn to the right of the portion 6 where the yarn 7 changes its direction, as indicated at 9, and is caught without knitting in wale 10 of body yarn of the left of the portion 6 where the yarn 7 changes direction, as indicated at 11.

As exemplified in Fig. 2, a body yarn 15 is similarly knit except in a design portion 16 wherein wrap yarn 17 is similarly knit and the body yarn similarly inlaid. The wrap yarn is caught without knitting into the body yarn at the sides of the portion 16 without knitting, but, instead of being caught only in one wale, is caught in a plurality of wales. In the present instance the yarn 17 is inlaid across several wales to the right of the portion 16 being caught in alternate wales in alternate courses, in

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which it is knit to the right in the portion 16 being caught in alternate wales in alternate courses, in which it is knit to the right in the portion 16, as indicated at 18, and being caught in intermediate wales in the intermediate courses, in which it is knit to the left in the portion 16, as indicated at 19; and is inlaid across several wales to the left of the portion 16, being caught in said intermediate wales in the courses in which it is knitted to the left as indicated at 20 and in the succeeding courses in which it is knit to the right in the portion 16 being caught in intermediate wales as indicated at 21.

In the form of construction exemplified in Fig. 3, a body yarn 25 is similarly knit in the piece of fabric shown except in the design portion 26 where a wrap yarn 27 is knit in a stitch wherein the forward and return extents of this yarn are knit in the same course. In the courses shown at the top and bottom of the portions 26, the wrap yarn 27 is caught into the fabric without knitting in a single wale at the side of the portion 26 as indicated at 28 and in the intermediate courses it is inlaid in two directions, in alternate wales to the right and in intermediate wales to the left. The caught-in portions which are at the right of Fig. 3 are indicated at 30, and the caught-in portions which are at the left of Fig. 3 are indicated at 31.

Fig. 4 shows a piece of fabric containing body yarn 35, which may be red, which is knit and inlaid similarly to the yarn 5 in Fig. 1, and a design portion 36 composed of two wrap yarns; one of which, a yarn 37 may be white, and the other of which, a yarn 38, may be blue. The yarn 37 is knit on alternate needles in its forward extent and the yarn 38 is knit in intermediate wales in its forward extent, whereas the yarn 37 is knit on said intermediate needles in its return extent and the yarn 38 is knit on said alternate needles in its return extent. yarn 37 is caught into the fabric without knitting at the right of the portion 36 in alternate courses as indicated at 39 and at the left of the portion 36 in intermediate courses as indicated at 40, and the varn 38 is caught without knitting at the right of the fabric in said intermediate courses as indicated at 41 and the yarn 38 is caught without knitting in said alternate courses at the left of the fabric as indicated at 42.

In the form of construction exemplified in Fig. 5, a body yarn 45 is knit in jersey loops throughout the piece of the fabric shown, except in a design portion 46. In this design portion, the yarn 45 and a wrap yarn 47 are knit in a pineapple stitch. In the uppermost course in the portion 46 a forward extent of the wrap yarn 47 is knit in odd-numbered wales and the yarn 45 in even-numbered wales. In the next course down, a return extent of the wrap yarn 47 is knit in even-numbered wales and the yarn 45 in odd-numbered wales. In the course below this, the knitting of the top course is repeated and so on down as far as the portion 46 may extend. The wrap yarn is caught into the fabric without knitting at the sides of the portion 46, as indicated at 48.

In Fig. 6 there is shown an arrangement wherein a body yarn 55 is knit except at a design portion 56 which comes to a point at its top and is straight-sided at its bottom. A wrap yarn 57 is knit in one wale in the uppermost course of the portion 56 as it appears in Fig. 6. In the next course down it is knitted in this wale and wales on each side of it. In the course below this, it takes in an additional wale to the right and left so as to extend over five wales. In the second and third courses, it is inter-knit in the two outside wales with the loops of body yarn 55. The body yarn 55 is floated past the design portion 56 in each of these courses. From the right-hand end of the third course, the yarn 57 itself

floats to the left and is again knit in five wales as it extends to the right and is thereupon caught without knitting in the next wale to the right and is then inlaid over seven wales to the left and knit in seven wales to the right, and this conformation is repeated thruout the succeeding two courses. The yarn 55 is also inlaid in these three courses. The leftward extent of the yarn 57 is caught without knitting in alternate wales and the yarn 55 is intermediate wales, and the yarn 57 is caught without knitting at the side of the portion 56. In the 10 next three courses, the yarn 57 is knit in nine wales and the yarn 55 inlaid therein is caught without knitting in said intermediate wales. The leftward extents of the yarn 57 in these instances, extend over eleven instead of nine wales and are caught without knitting in 15 wales once removed from the portion 56 on each side thereof, and are inlaid in said intermediate wales therebetween. The yarn 57 is caught without knitting at the sides of the portion 56, as indicated at 58.

It is to be observed that at the upper part of the design 20 portion 56 the varn 57 is caught into the fabric at the sides of the design portion by being inter-knit with loops of the body yarn disposed walewise thereof. This principle can be widely applied. In Fig. 7 there is exemplified a form of fabric utilizing this principle, and also, 25 pursuant to the invention, providing design yarns in individual wale-wise stripes thruout the design portion. As exemplified, the design portion is in the shape of a triangle. In the piece of fabric illustrated, a body yarn 65, which may be a brown yarn, is knit outside of and 30 inlaid within a design portion 66 in the manner exemplified by the yarn 5 in Fig. 1. The portion 66 is composed of individual wrap yarns each extending walewise of the fabric in a single wale and being of varying colors or other character. One such yarn may be metal, another 35 wool, another rayon, etc., or, as in the present instance, may be of different colors. As exemplified, a wrap yarn 67 which may be a red yarn extends down the center of the triangle over six courses, being inter-knit at its top and bottom courses with loops of the yarn 65. At each 40 side thereof there is a wale of white yarn 68 of five courses in extent, beyond which are wales of blue yarn 69 of four courses. Beyond these other courses of red yarn 67 of three courses of extent. Beyond these are wales of white yarn 68 of two courses in extent, and a 45 single loop of blue yarn 69 forming the right and left corners of the diamond. The body yarn 65 is inlaid thruout the design portion by being caught in alternate wales between sinker loops in adjacent courses.

Since certain changes may be made in the above fabric 50 and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A knitted fabric comprising body yarn, and wrap yarn knit in a plurality of wales in each of a plurality of adjacent courses of a portion of the fabric, said body yarn being knit throughout the parts of the fabric at the 60 sides of said portion and being incorporated in the fabric in said portion without plating, and said wrap yarn being caught into the knitted body yarn without knitting at the sides of said portion.

2. A knitted fabric as set forth in claim 1 wherein said 65

body yarn is incorporated in said portion by being inlaid.

3. A knitted fabric as set forth in claim 1 wherein the wrap yarn is caught in the wale of body yarn contiguous to said portion at each side thereof.

4. A knitted fabric as set forth in claim 1 wherein the wrap yarn is caught in the wale of body yarn next but one to said portion at each side thereof.

5. A knitted fabric as set forth in claim 1 wherein the wrap yarn extends over a plurality of wales at the side of said portion.

6. A knitted fabric as set forth in claim 1 wherein the sides of said portion are biased with respect to the wales and wherein the wrap yarn is caught by being interknit with walewise loops of the body yarn.

7. A knitted fabric as set forth in claim 1 wherein the wrap yarn is knit in one direction and floated in the

other direction.

8. A knitted fabric as set forth in claim 1 wherein the wrap yarn is knit in one direction and inlaid in the other direction.

9. A knitted fabric as set forth in claim 1 wherein the wrap yarn is knit in both directions.

10. A knitted fabric as set forth in claim 1 wherein the wrap yarn is knit in a jersey stitch.

11. A knitted fabric as set forth in claim 1 wherein the wrap yarn is knit in a pineapple stitch.

12. A knitted fabric as set forth in claim 1 wherein the wrap yarn is knit in alternate wales.

13. A knitted fabric comprising body yarn and wrap yarn appearing in a portion of the fabric, said wrap yarn and said body yarn being knit in a pineapple stitch in said portion.

14. A knitted fabric comprising body yarn and wrap yarn appearing in a portion of the fabric, said wrap yarn and said body yarn being knit in a pineapple stitch in said portion, said wrap yarn being caught into said body yarn at the sides of said portion without knitting.

15. A knitted fabric having an interior portion comprising a wrap yarn knitted in alternate wales in a course in said portion and floated past intermediate wales therein and knitted in alternating wales in a successive course in said portion and floated past the other wales therein, loops of a yarn other than the first-mentioned yarn being provided in said portion where the first-mentioned yarn is not knitted and being floated past the loops of said first-mentioned yarn, and an exterior portion having at the sides of said portion interknitted loops of a yarn other than said first-mentioned yarn, said first-mentioned yarn being caught in the last-mentioned loops without knitting.

16. A knitted fabric as set forth in claim 1 wherein said wrap yarn and said body yarn are each knit in alternating wales in said portion and floated past intervening wales.

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