May 21, 1940. J. MARKOWITZ 2,201,269

KNITTED FABRIC

Filed March 19, 1940

Fig. 1.

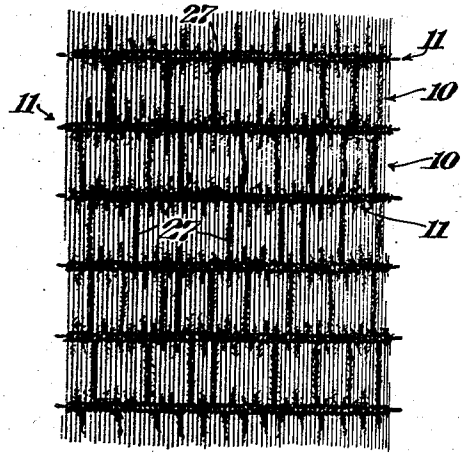
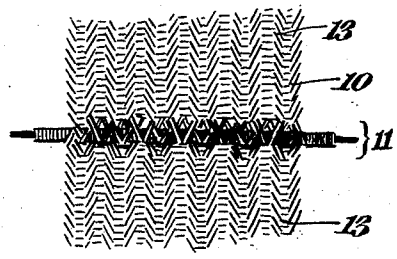


Fig. 2.



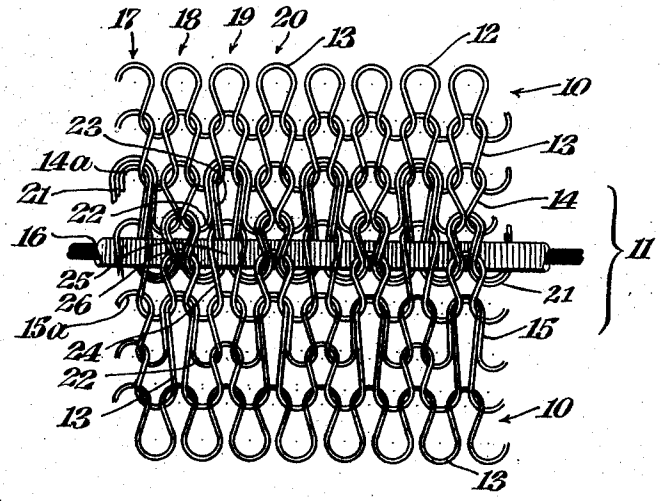


Fig. 3.

INVENTOR
Jack Markowitz
BY
E. R. Pozmack
ATTORNEY

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KNITTED FABRIC

Jack Markowitz, Brooklyn, N. Y., assignor to Pennant Knitting Mills, Inc., Brooklyn, N. Y.

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3 Claims. (Cl. 66—190)

This invention relates to fabrics, and particularly to those of knitted construction.

It is within the contemplation of my invention to provide a fabric of distinctive design and presentable appearance, and possessed of form-fitting elastic properties. And in this aspect of my invention, it is an object to present a stretchable knitted fabric of shirred or gathered effect.

It is a further object of my invention to provide a fabric of the aforementioned character with elastic strands incorporated into the fabric in such manner as to prevent a slipping thereof,—thereby obviating an uneven bunching up of the fabric at scattered portions thereof.

Another object of this invention is to provide reinforcement for the elastic elements in a fabric of the above-described character.

Still a further object is to minimize the formation of extensive runs caused by dropped stitches.

And it is within the contemplation of my invention to present a fabric of the above-mentioned characteristics that can be readily fabricated on conventional knitting machines.

Other objects, features and advantages will appear from the drawing and the description hereinafter given.

Referring to the drawing,

Figure 1 is a representation of a shirred fabric embodying one form of my invention.

Figure 2 is a somewhat enlarged diagrammatic representation of a form of fabric of my invention, showing the relationship of the elastic yarn, the tuck and the jersey stitch yarn, and

Figure 3 is an enlarged diagrammatic representation of the fabric substantially like that of Figures 1 and 2, showing the relative positioning of the various stitches employed, when the elastic yarn is in its fully elongated condition.

In the drawing, the fabric of the particular form of my invention illustrated comprises the basic knit portions 10, and the reinforced elastic portions 11 including the regions substantially within the limits of the brackets in Figures 2 and 3. Each basic knit portion 10 is formed of the body yarn 12 and consists, in the fabric illustrated, of the jersey stitches 13, although it is understood that other forms and designs of stitches may be employed in said basic knit portion within the scope and intent of this invention. Each of said portions 11 contains the tuck stitch courses 14 and 15, respectively, both adjacent the elastic yarn 16 incorporated with the fabric in a manner to be hereinafter set forth, said two tuck stitch courses being in flanking relation to said yarn 16. In the preferred arrangement, the tuck stiches in courses 14 and 15 are formed in alternate wales, those in course 14 being in the odd numbered wales, such as the wales identified by the reference numerals 17 and 19,—and those in course 15 being in the even numbered wales, such as the wales identified by reference numerals 18 and 20. In this manner, any dropped stitches in the wales below elastic yarn 16 will be kept from running above said yarn 16, as will become evident from the further description hereinafter given.

Embodied in the fabric in said portion 11 is the double yarn 21 which is formed with undulating stitches alternately disposed in front of and behind said elastic yarn 16. Although a double yarn is illustrated, it is also within the contemplation of my invention to employ any other type of reinforcing yarn means of increased proportions or strength. It will be observed that the free portions 22 of the tuck stitches are not knitted into the fabric, thereby enabling the formation of the relatively long loops 23 and 24, the excess yarn in such loops being taken from the said tuck stitches.

The elastic yarn is incorporated into the fabric while in its elongated condition, and extends in a straight line alternately behind loops 26 of the double yarn 21 in one wale, and between the single and double yarn loops 24 and 23, respectively, in the next wale.

It is important to note that the regions 25 of the elastic yarn 16 are firmly tied in between the long loops 23 and 24, thereby preventing slippage between the elastic and the interlocking yarns. The use of the relatively heavy double yarn 21 enhances this tying-in effect, inasmuch as that portion of loop 23 behind region 25 is sufficiently bulky to force elastic yarn 16 against loop 24; and in this manner said loops 23 and 24 cooperate to frictionally hold the elastic yarn against slippage. Furthermore, the double yarn 21 or the equivalent thereof serves the additional purpose of reinforcing the fabric at the region of the elastic strands 16.

When the elastic yarn 16 is in its fully elongated condition, the fabric is substantially as diagrammatically illustrated in Figure 3. But when it is permitted to contract to its normal unstretched condition, it will cause a gathering or puckering of the fabric, with many vertically extending folds 27, substantially as indicated in Figure 1.

The material not only has the presentable appearance of a uniformly shirred effect, but also

has the utilitarian advantages of form-fitting elasticity, rendering it adaptable for a variety of uses. With strands 16 of very considerable elasticity, a very decided puckering can be effected.

According to the preferred form of this invention, the tuck stitch courses 14 and 15 are at the region of the elastic strand 16, so as to remove these necessarily coarse and unsightly stitches from the body or basic knit portions 10 of the fabric. Being adjacent the various elastic strands 16, they do not adversely affect the appearance of the fabric, and yet are permitted to serve their utilitarian functions. Furthermore, by keeping the tucking courses at the upper and lower edges of the regions 10, there is no interruption to the vertical continuity of the puckering folds except at the lines of the elastic strands 16.

The body yarn 12 can be of any desired properties, but it is essential that the elastic yarn 16 be of considerably greater elasticity and capable of being elongated to a considerably greater extent. The spacing between the elastic yarns 16 can be varied according to requirements.

It is of course understood that the above description is merely illustrative of the fabric of my invention, and that other forms and modifications thereof may be made within the scope of the appended claims.

What I claim is:

1. A puckered fabric comprising a basic knit portion with spaced vertical folds and an elastic portion incorporated in said basic portion, the elastic portion containing an elastic strand disposed along a course extending transversely with respect to the wales of the fabric, said strand extending straight across and being tied in between forwardly and rearwardly disposed knit loops in predetermined wales so that upon a stretching of the elastic strand the knit loops will be correspondingly moved with it, certain of said knit loops tying in the elastic strand constituting a course of yarn structurally stronger than the yarn in the basic knit portion.

2. A puckered fabric comprising a basic knit portion with spaced vertical folds and an elastic portion incorporated in said basic portion, the elastic portion containing an elastic strand disposed along a course extending transversely with respect to the wales of the fabric, said strand extending straight across and being tied in between forwardly and rearwardly disposed knit loops in predetermined wales so that upon a stretching of the elastic strand the knit loops will be correspondingly moved with it, certain of said knit loops tying in the elastic strand constituting a course of yarn of greater cross-sectional area than that of the yarn in the basic knit portion.

3. A puckered fabric comprising a basic knit portion with spaced vertical folds and an elastic portion incorporated in said basic portion, the elastic portion containing an elastic strand disposed along a course extending transversely with respect to the wales of the fabric, a reinforcing course of knit loops in said elastic portion formed of a double thread of yarn, said elastic strand extending straight across and being tied in between certain knit loops of said reinforcing course and interlocking knit loops of the next adjacent course in predetermined wales.

JACK MARKOWITZ.