July 11, 1939. M. FELLEGI 2,165,469

SEWING OF FABRICS

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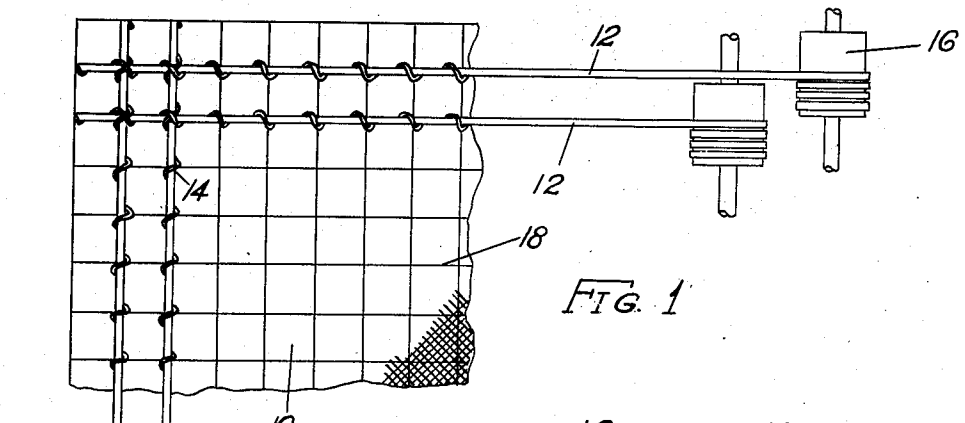


FIG. 1

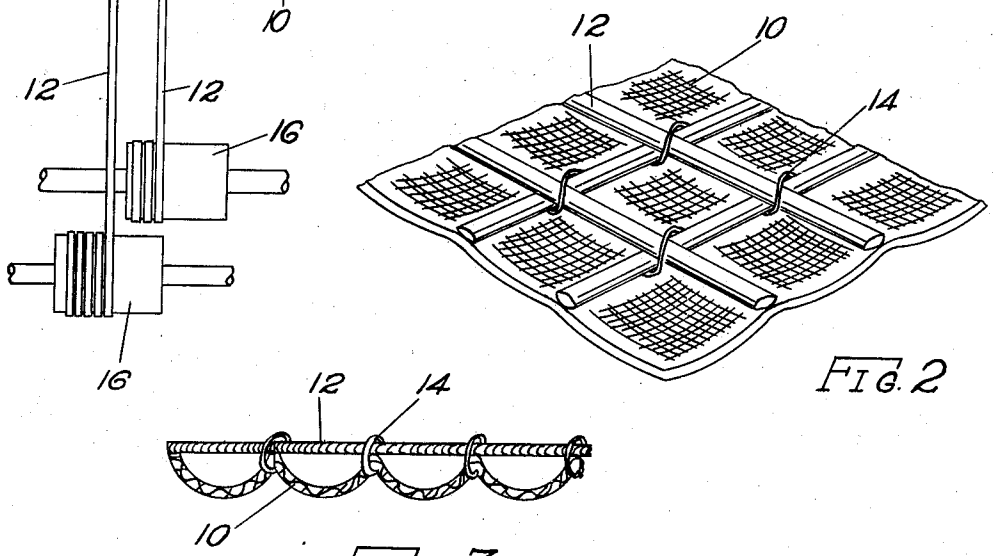


FIG. 2

FIG. 3

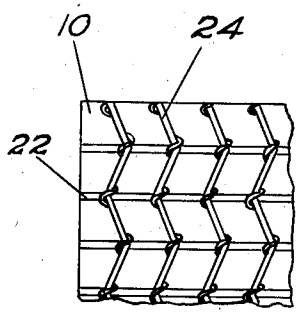


FIG. 4

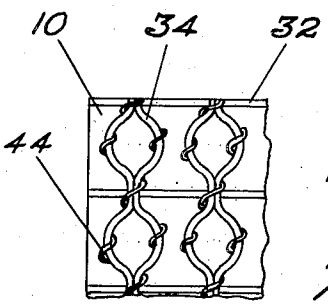


FIG. 5

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SEWING OF FABRICS

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Application March 4, 1937, Serial No. 128,902

3 Claims. (Cl. 2—243)

This invention relates to an improved fabric and method of preparation and has, for one of its principal objects, the provision of a novel type of material which, although not inherently elastic, is made elastic or stretchable in one or more directions by the application of elastic yarn thereto.

One of the important objects of this invention is the provision of a new material and also a method of making this material which will provide a more elastic, and accordingly, a more conforming fit in close fitting garments such as, for example, bathing or swimming suits.

Another object of the invention is to provide a new and useful material or fabric which is especially suitable for women's garments inasmuch as the eye appeal is enhanced, and which, at the same time, will conform more easily to the motions and various positions of the body, particularly in movement such as in athletic exercises.

Another and further important object of the invention is to provide a material for garments which is so constructed, particularly so far as its elastic nature is concerned, that a single size will readily and easily adapted itself to persons of various stature and girth.

Other and further important objects of the invention will be apparent from the disclosures in the accompanying drawing and following specification.

The invention, in a preferred form, is shown in the drawing and hereinafter more fully described.

In the drawing:

Figure 1 is a plan view, illustrating the material of this invention and showing a preferred method of making the same.

Figure 2 is a perspective view, showing a portion of the completed material.

Figure 3 is a sectional view, it being understood that all of these figures are considerably enlarged for purposes of clarity.

Figure 4 is a detail view showing a modification of the invention, and Figure 5 shows a further modification.

As shown in the drawing:

The reference numeral 10 indicates generally an ordinary piece of fabric which can be cotton, wool, linen, silk or the like, and which may be of any thickness or mesh depending upon the final use to which the completed material is to be put.

In one embodiment of the invention, a series of elastic cords or threads 12 are sewed or otherwise attached by stitching or the like 14 to one face of the material 10, the cords 12 being maintained under tension while they are being attached to the face of the fabric 10. This can be accomplished by having the containing spools 16 held under tension by any suitable means or in any other manner.

The elastic threads 12 are well-known in the art, comprising merely a thin spun thread of rubber or the like usually covered with a braided coating or spirally wound cover of cotton or some other similar material.

The elastic threads are preferably applied to a piece of material 10 after the same has been preliminarily cut out to a particular shape so as to conform to the outline or pattern of that particular portion of the finished garment, but, of course, may also be applied to cloth in the piece.

For the guidance of the operator, lines 18 are preliminarily marked on the face of the fabric 10, these usually being by means of chalk or some other readily erasable element.

The yarn 12 is sewed or attached to the face of the fabric 10 by the thread 14 which is easily applied with a machine using a chain or lock stitch, and the tension of the yarn 12 can be controlled, of course, by suitable adjustments on the spindles which support the spools 16 as by a spring control or the like. The tension controlled feeding of the elastic yarn 12 can be accomplished in other ways to get this same desired result. One such method is to feed the yarn through the head of the sewing machine and then down to the needle. The underneath bobbin carries the cotton thread 14 which holds the elastic yarn in tension on the material when the sewing machine is operated.

After being sewed, the elastic yarn contracts, producing a uniform degree of puckering in the work such as is illustrated in perspective at Figure 2 and in cross-section in Figure 3.

One preferred form of marking is that of diagonally crossing lines as opposed to the right-angle crossing shown in Figure 1, thereby producing a diamond or lozenge-shaped pattern which has been found to be particularly good for form-fitting requirements. The pattern of small squares produced by the method shown in Figures 1 and 2 is also quite desirable, and as illustrated in Figures 4 and 5, the patterns may be varied such as the straight-line yarns 22 and those attached at angles as shown at 24. This, of course, requires considerably more skill on the part of the operator and also a slightly more complicated arrangement of the mechanism including the

supporting spools and the stitching machine itself.

Another arrangement is that shown in Figure 5 wherein some straight-line yarns are employed as at 32 with pairs of yarns 34 alternately spaced apart and brought together by means of the stitching 44 as illustrated. Other patterns may, of course, be produced at will or depending to some degree upon the capacity of the machinery and operators employed.

The puckered completed cloth can then be readily made up into a final garment either from one or more pieces, depending upon the final product desired.

It will be evident that herein is provided an improved type of garment material which will meet a considerable variety of requirements and which will also be found to be particularly attractive when made up into final garments, first, on account of its appearance, and next, on account of the normal form-fitting effect which is achieved.

The free elasticity will obviously produce a garment which is more desirable from the standpoint of comfort to the wearer, and the method of production is sufficiently simple so as to avoid the necessity of any considerable additional cost.

I am aware that many changes may be made and numerous details of construction varied throughout a wide range without departing from the principles of this invention, and I, therefore, do not purpose limiting the patent granted hereon otherwise than as necessitated by the prior art.

I claim as my invention:

1. A garment material comprising a sheet of substantially non-elastic woven fabric, a series of elastic threads independently attached to the surface of said fabric in substantially parallel lines, a second series of elastic threads independently attached to said surface and extending in substantially parallel zig-zag lines in a direction substantially perpendicular to the direction of the first-named series of elastic threads whereby a series of diamond-shaped patterns results, all said elastic threads being attached in a stretched condition to said basic material whereby the basic material will assume when not under stress a puckered formation.

2. A garment material comprising a sheet of substantially non-elastic woven fabric, a series of elastic threads attached to the surface of said basic material in substantially parallel lines, a second series of elastic threads attached to said surface and extending in substantially parallel lines in a direction substantially perpendicular to the direction of the first-named series of elastic threads, all said elastic threads being attached in a stretched condition to said basic material whereby the basic material will assume when not under stress a puckered formation, and in which the threads of each series are arranged at angles of substantially forty-five degrees to the lines of direction of the warp and weft threads of the fabric.

3. A fabric, including a layer of cloth composed of warp and weft threads, elastic threads applied to the fabric under tension and in more than one direction and crossing each other, and stitching fastening the elastic threads to the fabric at substantially a forty-five degree angle to the warp and weft threads of the fabric.

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