Sept. 20, 1932. F. L. BRIGHAM 1,877,799

FABRIC

Original Filed Dec. 16, 1930

Fig. 1

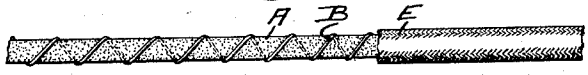


Fig. 2

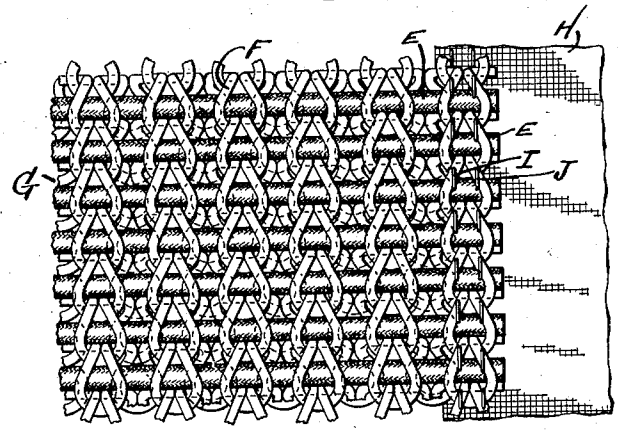
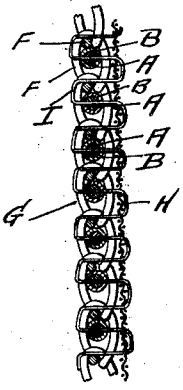


Fig. 3



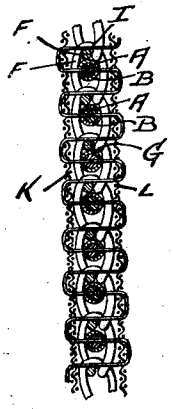


Fig. 4

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FABRIC

Original application filed December 16, 1930, Serial No. 502,647. Divided and this application filed September 15, 1931. Serial No. 562,874.

This invention relates to an improvement in fabrics, and is a division of my copending application Serial No. 502,647, filed December 16, 1930.

More specifically the present invention is directed to a method of joining fabrics one of which is an elastic fabric, and provides a method of joining whereby the strength and elasticity of the elastic fabric is left unimpaired, in fact is improved.

As pointed out in my copending application above referred to, it is the universal practice in joining a piece of elastic fabric to another piece of fabric to avoid stitching through the elastic threads of the elastic fabric. I have found, however, that if elastic threads with a braided covering be employed in making the elastic fabric, then it is of material advantage in joining a piece of such an elastic fabric to another piece of fabric to sew or stitch directly through the elastic threads so that in the finished piece I have an elastic fabric joined to another piece of fabric by threads passed deliberately through the complete elastic threads of the elastic fabric.

In the practice of my invention I prefer to employ an elastic fabric such as disclosed in my copending application above referred to, wherein an elastic thread covered with a braid and of improved construction is provided, although other types of elastic fabrics employing braid-covered elastic threads may be employed with good results.

In the drawing accompanying this application:

Fig. 1 is an elevational view partly broken away of a thread suitable for employment in an elastic fabric in practicing my invention;

Fig. 2 is a view in plan on an enlarged scale of a knitted elastic fabric attached to a piece of non-elastic in accordance with my invention;

Fig. 3 is a sectional view of Fig. 2; and

Fig. 4 is a view similar to Fig. 3 showing the elastic fabric attached to two pieces of non-elastic as distinguished from the single piece of non-elastic shown in Figs. 2 and 3.

For a clear understanding of my invention I shall describe the same in connection with knitted elastic fabrics, it being understood, however, that good results are obtained when using woven elastic fabrics.

In the construction of knitted elastic fabrics the elastic threads extend lengthwise of the fabric and the non-elastic knitting threads are passed about the elastic threads and interlaced with each other. The elastic threads heretofore employed in the making of elastic fabrics usually consist of a rubber core thread covered with one or more helically applied coverings or wraps of silk, cotton or other suitable fibrous material. It will be appreciated, therefore, that in such a thread the elastic core threads lie in channels provided by their helically applied coverings and that the thread as a whole lies in a channel provided by the knitting threads.

It has been generally accepted by the trade prior to my invention that when attaching such a piece of fabric to another piece of fabric, for instance to a piece of non-elastic fabric, the stitching threads should avoid passing through the elastic core threads, the binding action of the covering threads and the filler threads (in the case of woven fabrics) and the knitting threads (in the case of knitted fabrics) together with the stitching threads being relied upon for retaining the elastic core threads against pulling back. I have found, however, that greatly improved results are obtained if the elastic threads are braid covered and if I pass the stitching threads directly through these threads thereby deliberately anchoring the core threads in place.

Referring to the drawing in detail, the thread illustrated in the drawings comprises one or more elastic core threads designated A. With this elastic extended to any desired degree, depending upon the degree of elasticity desired in a fabric employing the thread, I apply to the core A a covering B of any suitable fibrous material such as silk, cotton, etc. This covering B is wrapped helically about the elastic core A in a fairly long pitch (somewhat exaggerated in the drawing) so as to leave an appreciable space between the adjacent leads thereof.

I next braid an outer covering E about the

thread. This braid may be applied in a continuous operation or at any convenient time after the application of the covering B, it being understood, however, that in applying the braid the elastic core A is under tension so that the leads of the covering B will be appreciably spaced, as above mentioned.

I find that in such construction the wraps or leads of the inner covering B impart somewhat of a corrugated surface to the exterior of the thread A which prevents slipping of the braided covering E with respect to the inner covering B. I find also that the leads of the covering B, when the braid E is applied thereto, become pressed into the surface of the rubber or elastic core A and that by reason of the long pitch of the covering B the braid E is pinched between the leads of the covering B when the tension in the core thread is released, so that not only is the braided covering held against slipping but the inner covering B is held against slipping with respect to the elastic core A.

Referring now to Figs. 2 and 3, it will be seen that I have incorporated the thread of Fig. 1 in a piece of knitted fabric, the knitting threads of this fabric having been designated F. These knitting threads, as is usual, pass about the elastic threads and are interlaced.

In attaching the elastic fabric of Fig. 2, which I shall designate G, to another piece of fabric such as the non-elastic H, the adjacent edges of the two pieces of fabric are overlapped to any degree desired, as shown in Fig. 2, and stitched together by one or more rows of stitches. In the drawings I have shown two rows of stitches designated I and J and it will be seen that these stitching threads not only pass through the knitting threads but directly through the braided covering and the rubber core A of each elastic thread.

Accordingly not only do I have the benefit of the knitting threads or the filler threads, as the case may be, in holding the elastics from pulling back to destroy the elasticity and impair the strength of the goods or fabrics, but I have anchored the core threads in place by passing the stitching threads directly through them and their braided covering, and I have found that this not only effectively retains the core threads in place but very materially improves the elasticity and strength of the elastic fabric as a whole.

In Fig. 4 I have shown a modified construction in which the elastic fabric G is stitched between two pieces of fabric K and L, the stitching threads as before passing directly through each rubber core thread A.

While I have illustrated and described the novel type of elastic thread covered by my copending application, above referred to, it is to be understood that my invention is also applicable to the joining of other types of elastic fabrics wherein elastic braid-covered threads are employed, my invention in its broadest aspect comprehending the joining in a novel way of an elastic fabric employing braid-covered elastic threads to a non-elastic fabric or an elastic fabric, as the case may be, the stitches joining the two fabrics passing through the braided covering and the core of the elastic threads to anchor the same in place.

It will be appreciated also that not only does the present invention provide for an improved joint between an elastic fabric and a non-elastic for instance, whereby the strength and elasticity of the elastic fabric are improved, but it also permits the use of a much more open work knit or weave in the elastic fabric.

What I claim is:

1. In combination a fabric in overlapped relation to an elastic fabric comprising braid-covered elastic threads, and stitching threads passing through the first mentioned fabric and the braid covering and the elastic core thread of each of said braid covered elastic threads of the second mentioned fabric for uniting the two fabrics.

2. In combination a fabric in overlapped relation to an elastic fabric comprising elastic core threads having a helical fibrous wrap immediately about the core threads and a braided covering over the helical wrap, and stitching threads passing through the first mentioned fabric and the braid covering and core of each of the elastic threads of the second mentioned fabric to unite the two fabrics.

This specification signed this 14th day of September, 1931.

FREDERICK L. BRIGHAM.