March 20, 1928. 1,663,303

J. HIRSCH

ELASTIC WEBBING

Filed Jan. 27, 1927

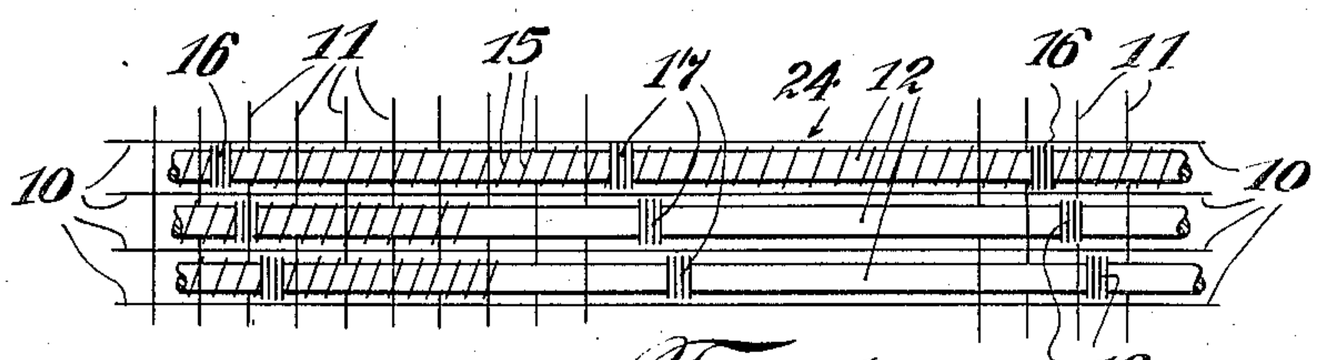

Fig. 1.

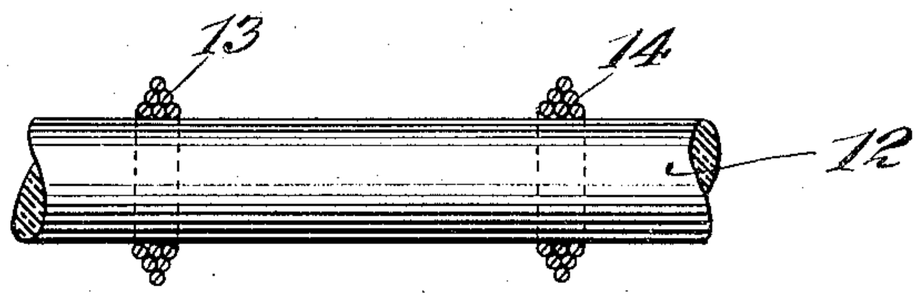

Fig. 2.

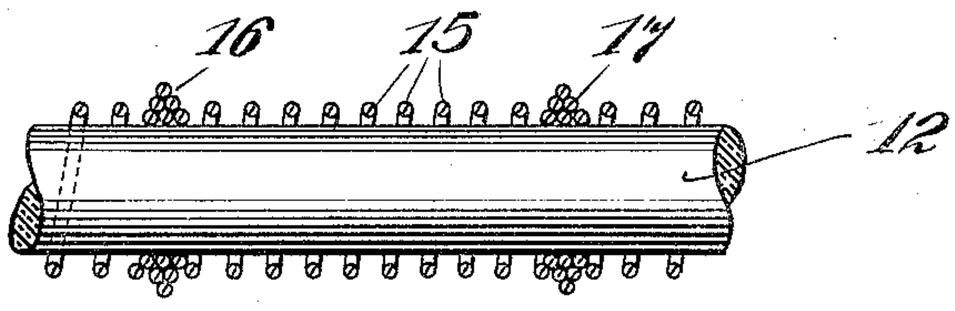

Fig. 3.

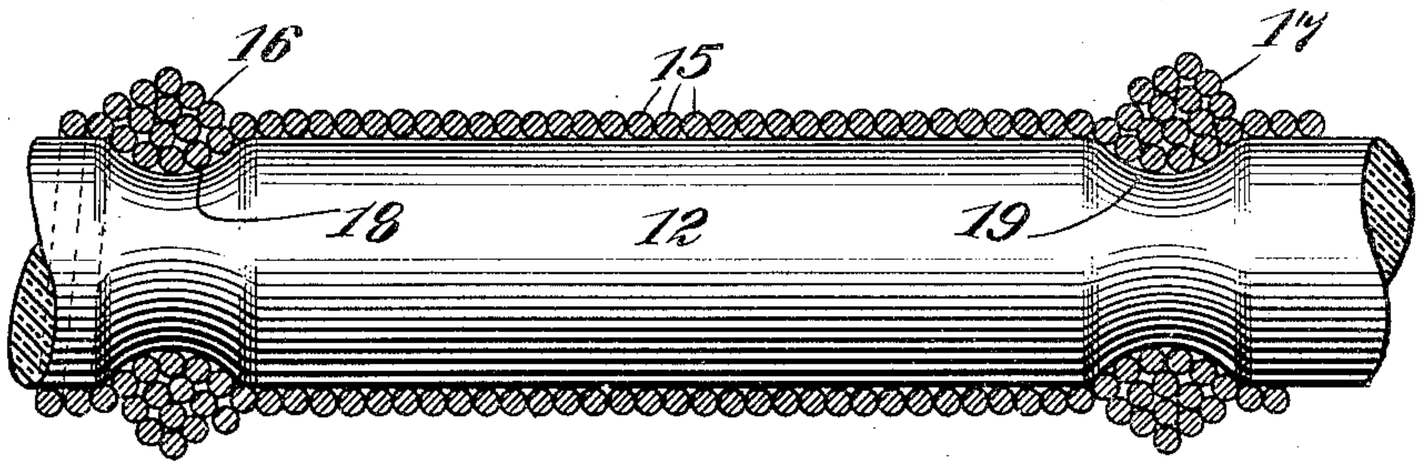

Fig. 4.

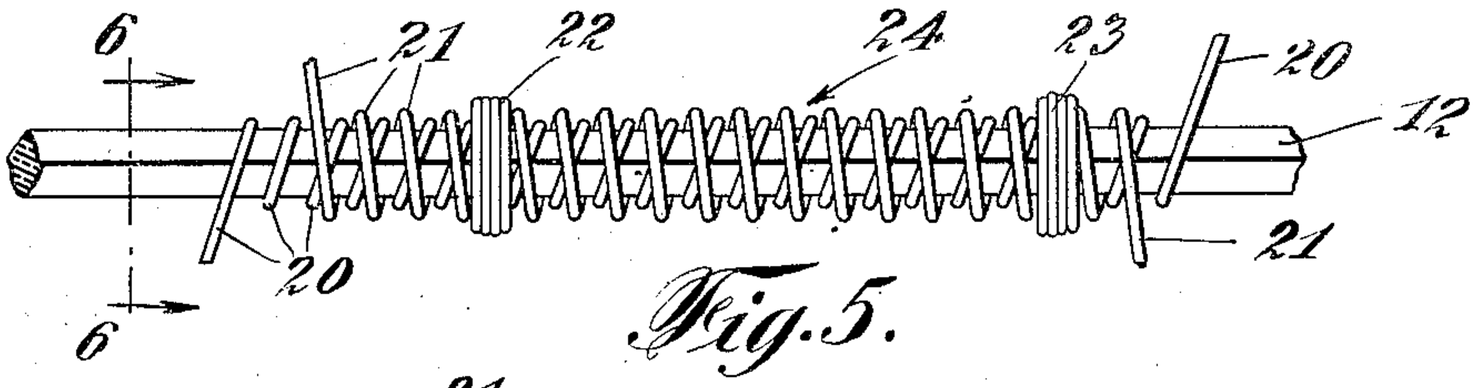

Fig. 5.

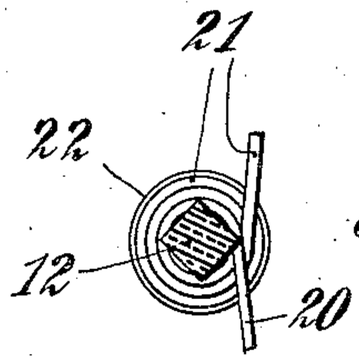

Fig. 6.

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UNITED STATES PATENT OFFICE.

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ELASTIC WEBBING.

Application filed January 27, 1927. Serial No. 163,891.

The present invention relates to an improvement in elastic webbing. The type of elastic webbing in which the invention is embodied is that particularly adapted for use as inserts or sections of corsets, girdles, brassières and similar articles of wearing apparel, although as will be understood, the use of the fabric is not so limited as it may be employed for various other purposes. The elastic webbing made in accordance with this invention is constructed in the usual manner by weaving, knitting or otherwise, and the elastic strands employed are prepared in a special manner to prevent the same from pulling through the fabric when in use. I am aware that heretofore, elastic webbings have made for the same and similar purposes in which in the weaving or knitting of the fabric predetermined portions of the elastic strands have been so bound to the body of the fabric as to prevent the elastic strands from pulling through the same. In the present invention, however, the webbing made in accordance therewith is woven or knitted or otherwise made in the customary manner, and as hereinbefore stated, each elastic strand is so prepared that when incorporated in the fabric it is prevented from pulling through the same.

In carrying out the invention the elastic strands made in accordance therewith and included in the body of the fabric to give the same its elasticity are each provided in spaced positions with a binding which compresses the bound portion of the strand to a greater or lesser extent and also forms a rib therein, preferably a circumferentially disposed rib, the diameter of which is greater than the normal diameter of the elastic strand, whereby as will be understood when woven or knitted or otherwise incorporated in a usual manner with the threads forming the body of the fabric in which the elastic strands are employed, the threads of the fabric being made to conform to the elastic strands, the ribs in the strands prevent the same from pulling through the fabric when in use as will be hereinafter more particularly described.

In the drawing Figure 1 is a diagrammatic plan illustrating a fabric made in accordance with the present invention.

Fig. 2 is a diagrammatic elevation of a form in which the elastic strands may be made.

Fig. 3 is a similar view showing another form of elastic strand being provided with a winding while under tension.

Fig. 4 is a view similar to Fig. 3, showing the elastic strand in its normal condition.

Fig. 5 illustrates the use of a two ply winding or cover on an elastic strand made in accordance with this invention, and

Fig. 6 is a section on line 6—6, Fig. 5.

As illustrated in the drawing, the elastic webbing made in accordance with this invention may comprise the usual warp threads 10 and weft threads 11 woven in the usual manner with the spaced elastic warps 12, although as will be understood, the fabric may be knitted or otherwise constructed and the ordinary warp and weft threads made of cotton, silk, or any suitable material. Furthermore, the elastic strands may be run in the fabric as warps rather than weft threads without departing from the nature of the invention.

The elastic strands used in making the elastic webbing may be uncovered or provided with a suitable binding forming a covering therefor which may be of any desired number of plies. As illustrated in Fig. 2, the elastic strand 12 is not provided with a cover. At predetermined intervals, that is in suitably spaced positions the elastic strand 12 is provided with ribs 13, 14. These ribs may be constructed in any desired manner, as for example by binding the elastic strand preferably while under tension with a suitable thread of cotton or other material which binds the strand so as to compress the same to a greater or lesser extent and also to cause the diameter of each rib to be appreciably greater than the diameter of the elastic strand when in its normal condition. The ribs may be placed at any suitable intervals, and as will be understood when the fabric is constructed with a plurality of elastic strands made as described, the threads forming the body of the fabric conform to the configuration of the elastic strands, being associated closely with the ribbed portions thereof so as to prevent the elastic strands from pulling through the body of the fabric.

As illustrated in Fig. 3, the elastic strand 12 is wound with a binding thread 15 which forms a cover therefor. At predetermined intervals instead of being wound spirally, this binding thread is wound circumferentially to provide ribs 16, 17 which are of

appreciably greater diameter than that of the elastic strand when in its normal condition, and each of which as illustrated in this figure and in Fig. 4, compress the elastic strand circumferentially to a greater or lesser extent as indicated at 18 and 19.

In Fig. 5 of the drawing the elastic strand 12 is provided with two binding threads 20 and 21 which form a two-ply cover therefor. The inner binding thread 20 is preferably wound spirally on the elastic strand while under tension in the usual manner, and the outer binding thread 21 at predetermined intervals, that is in suitably spaced positions is wound circumferentially of the webbing for relatively short distances to provide ribs 22 and 23, the intermediate portions 24 and this outer winding thread being arranged spirally and preferably at an angle the reverse of that at which the inner binding thread is wound. The ribs 22 and 23 like those in the other forms of the invention are of appreciably greater diameter than that of the elastic strand in its normal condition, and these ribs are so made as to compress to a greater or lesser extent those portions of the elastic strand lying within the same.

It will be understood that as illustrated in Fig. 1, the elastic strands in either of the forms as hereinbefore described or other equivalent forms, may be so placed as to assume positions in which the ribs are regularly staggered, or in positions in which the ribs are irregularly staggered, or in which the ribs are in alignment, and irrespective of the positions in which the elastic strands are placed in the fabric in weaving or knitting or otherwise forming the webbing, the threads constituting the body thereof are made to conform closely to the elastic strands whereby in the finished product the ribs formed on the elastic strands prevent the same from pulling through the fabric when in use and thereby cause the webbing to retain its elasticity in a garment in which it may be incorporated.

I claim as my invention:

1. In an elastic strand, a core, and a binder thread at spaced intervals in each of which the binder thread comprises a plurality of superimposed turns about the core adapted when the core is in its normal condition to slightly compress the same and the number of turns of the said thread being sufficient to cause the outer diameter thereof to be appreciably greater than that of the core when in its normal condition.

2. In an elastic webbing, inelastic warp and weft threads, and a plurality of elastic strands each elastic strand having a core and a cover of inelastic threads in which at spaced intervals the cover threads are wound in a plurality of superimposed turns so as to slightly compress the core when in its normal condition and also to have an exterior diameter appreciably greater than the normal diameter of the elastic strand.

3. In an elastic webbing, inelastic warp and weft threads, and a plurality of elastic warp strands, each elastic warp strand including a core and a cover of inelastic threads in which at spaced intervals the cover threads are wound in a plurality of superimposed turns so as to slightly compress the core when in its normal condition and also to have an exterior diameter appreciably greater than the normal diameter of the elastic strand.

Signed by me this 27th day of December, 1926.

JOSEPH HIRSCH.