S. T. METZ.

FABRIC.

APPLICATION FILED JULY 19, 1918.

1,301,865. Patented Apr. 29, 1919.

Fig. 2.

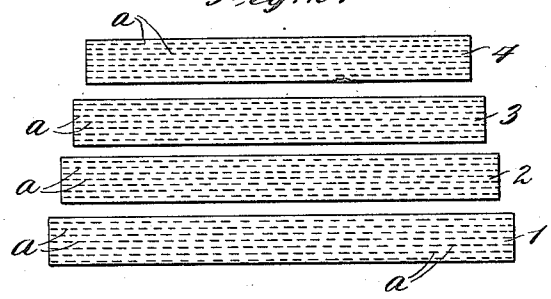


Fig. 1.

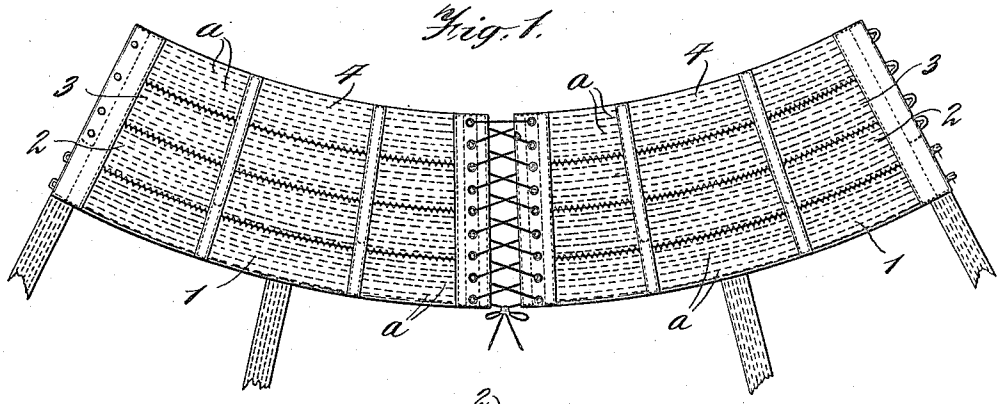


Fig. 3.

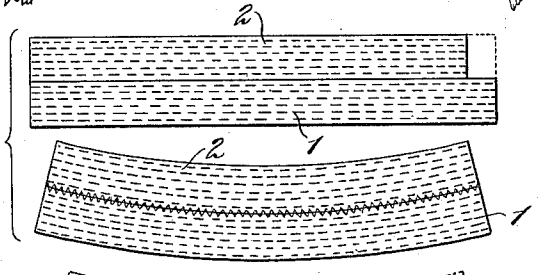


Fig. 4.

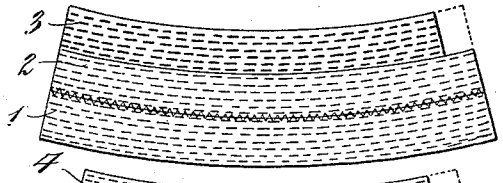
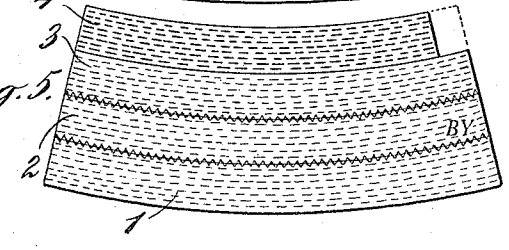


Fig. 5.



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FABRIC.

1,301,865. Specification of Letters Patent. Patented Apr. 29, 1919.

Application filed July 19, 1918. Serial No. 245,629.

To all whom it may concern:

Be it known that I, SAMUEL T. METZ, a citizen of the United States, residing at the city of New York, in the borough of Brooklyn and State of New York, have invented certain new and useful Improvements in Fabrics, of which the following is a full, clear, and exact description.

My invention relates to fabrics and particularly to elastic fabrics suitable for use in surgical bandages, supporters and appliances, and in elastic articles of apparel, such as hip confiners, girdles, brassières, elastic corsets and the like. Such articles are usually required to fit upon a portion of the body of irregular size or diameter, and the articles are therefore commonly substantially frusto-conical in order to accommodate themselves to the portion of the body upon which they are to be applied. For example, a hip confiner is preferably of smaller diameter at the waist line than it is in the hip portion, and therefore the article, if composed of flat, unshaped elastic webbing, as they usually are, has its ends non-parallel and diverging from the top to the bottom when laid out flat in order to provide a progressively larger diameter from the waist line downward. Since the surface of a frustum of a cone, if developed, has its upper and lower edges curved, it is manifest that the frusto-conical article, in order to most accurately fit the part to whicch it is applied, should have its upper and lower edges curved. In order to obtain this curved shape of the article, it has heretofore been necessary to cut the fabric to that shape, thereby necessarily cutting across the rubber strands and impairing the elasticity of the article near its top and bottom.

An object of my invention is to obtain an elastic fabric having the desired curved shape in which all of the rubber strands extend from end to end of the fabric, in other words, one in which the strands themselves are curved substantially concentrically with the upper and lower edges of the fabric.

In accordance with my invention this is accomplished by making the fabric of two or more longitudinal component strips which are woven straight, and by uniting the edge of one of the strips when stretched to a relatively unstretched edge of a complementary strip. The composite fabric assumes the desired curved shape when the tension upon the stretched edge is released.

In the accompanying drawings:

Figure 1 is a face view of a hip confiner or girdle as it appears when laid out flat.

Fig. 2 shows face views of the various strips or bands out of which the garment is made, before they are stitched together.

Figs. 3, 4 and 5 illustrate various stages in the process of making the garment.

In Fig. 1 there is shown by way of a practical utilization of fabric embodying my invention, a hip confiner having the desired curved shape. This garment is composed of two halves laced in the back and secured in the front in the usual way, suitable stiffening devices and inelastic end pieces being provided in the well known manner. Each half is shown as composed of a plurality of elastic component strips, in this case four, numbered 1, 2, 3 and 4. These strips are woven straight and flat, as indicated in Fig. 2, the rubber strands *a* running from end to end, and the strips are progressively of shorter length from the bottom to the top.

If desired the strips 2, 3 and 4 may be stretched the desired amount and the operation of sewing the strips together may be performed simultaneously, but I have found it satisfactory to sew them together successively. For instance, as shown in Fig. 3, the strips 1 and 2 may be placed edge to edge with one end coinciding, and as they are run through the sewing machine, the strip 2 may run through a tensioning device arranged to stretch it out, as indicated in dotted lines, to the same length as strip 1. When sewed together, the two strips will assume the curved shape shown in Fig. 3, and the strip 2 is partially extended, although it contracts somewhat from its original stretched condition, but not enough to cause the upper edge of strip 1 to pucker.

Strip 3 is then applied, as shown in Fig. 4 and stretched to the length indicated in dotted lines as it is being sewed, and then strip 4 is similarly attached, as indicated in Fig. 5. Additional strips may be similarly added as desired.

In this way, it will be observed, the stand-

ard straight elastic webbing may be used to make a composite fabric which is curved and in which the rubber strands *a* extend from end to end, no cutting being necessary to obtain the desired shape.

By longitudinal, as used herein, is meant the direction of the elastic strands, and therefore the terms upper and lower are used relative to such longitudinal direction.

In some instances it may not be necessary to relatively stretch all of the added component strips to obtain the desired shape, and other modifications may be made in the above described method without departing from the spirit and scope of my invention.

I claim:

1. An elastic fabric comprising a plurality of component elastic strips secured edge to edge and one strip having its edge stretched relative to the edge of the adjacent strip to which it is secured.

2. An elastic fabric having concentrically curved upper and lower edges and comprising longitudinal elastic strands extending from end to end of the fabric in lines substantially concentric with the upper and lower edges.

3. An article of apparel of substantially frusto-conical shape, and comprising an elastic body portion composed of a plurality of curved elastic longitudinal strips secured edge to edge in succession, the convex edges of the strips being stretched relative to the adjacent concave edges of the strips to which they are secured.

In witness whereof, I subscribe my signature.

SAMUEL T. METZ.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."