

1,043,524.

Patented Nov. 5, 1912.
3 SHEETS—SHEET 1.

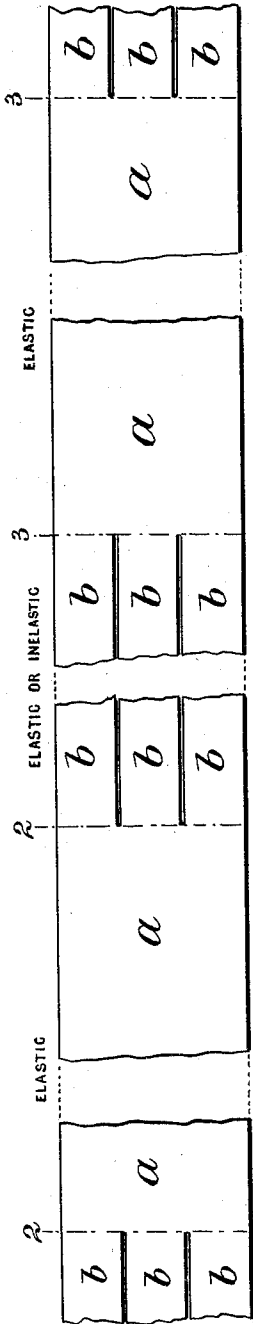


FIG. 1.



FIG. 2.

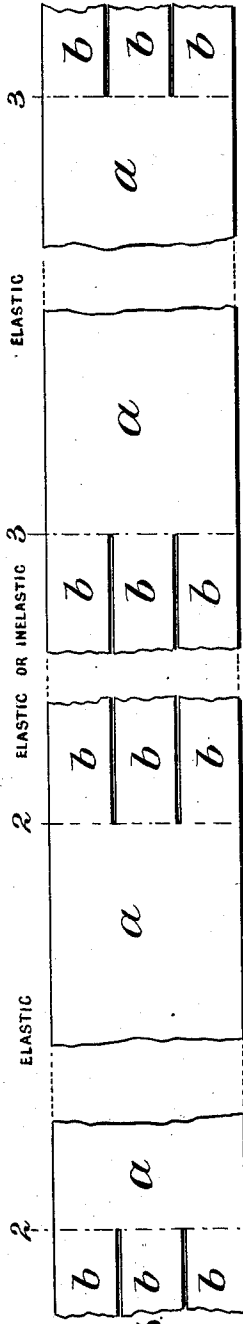


FIG. 3.



FIG. 4.

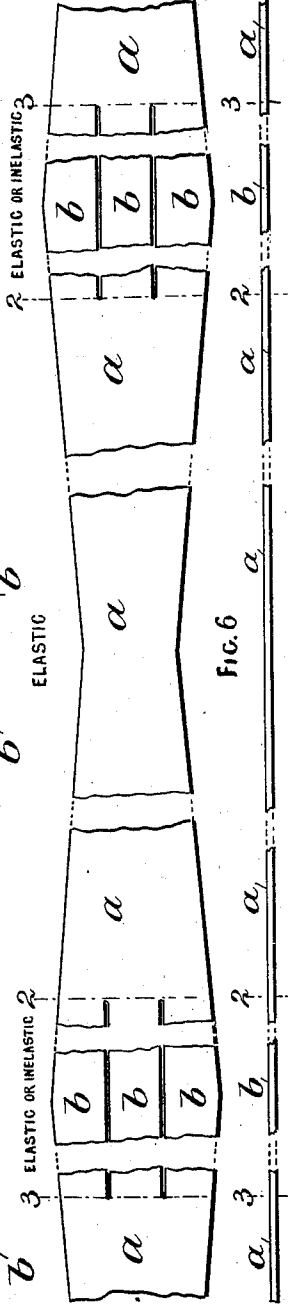


FIG. 5.

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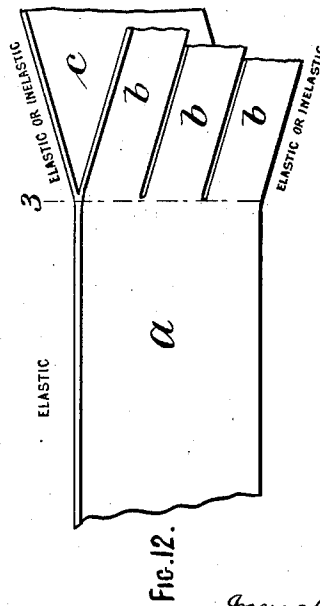
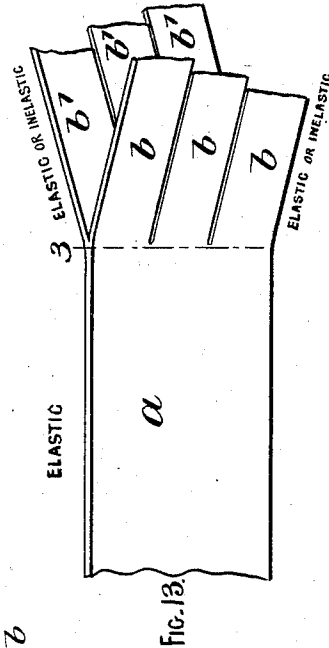
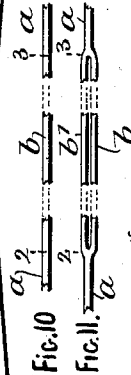
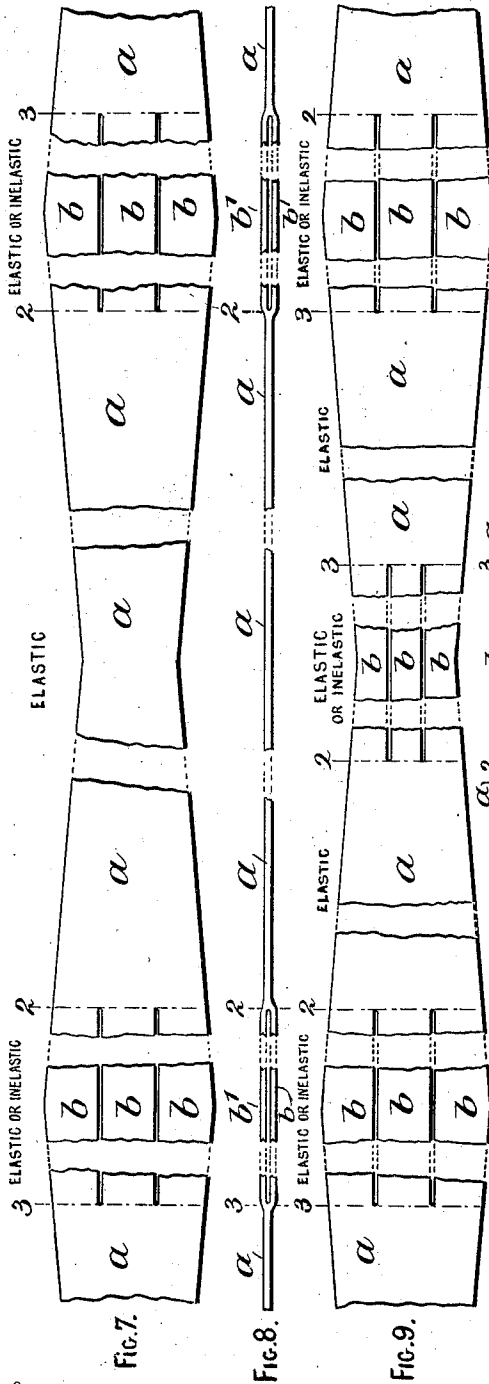
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3 SHEETS—SHEET 2.



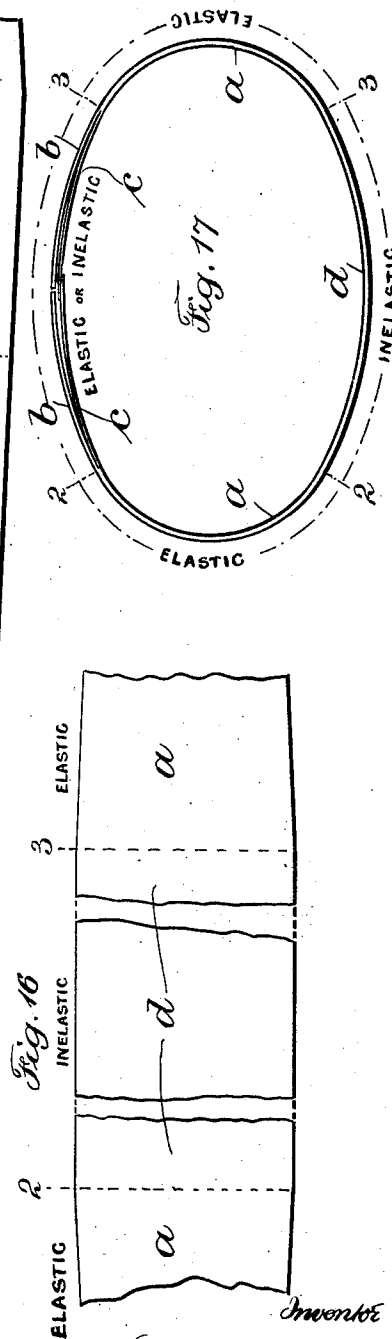
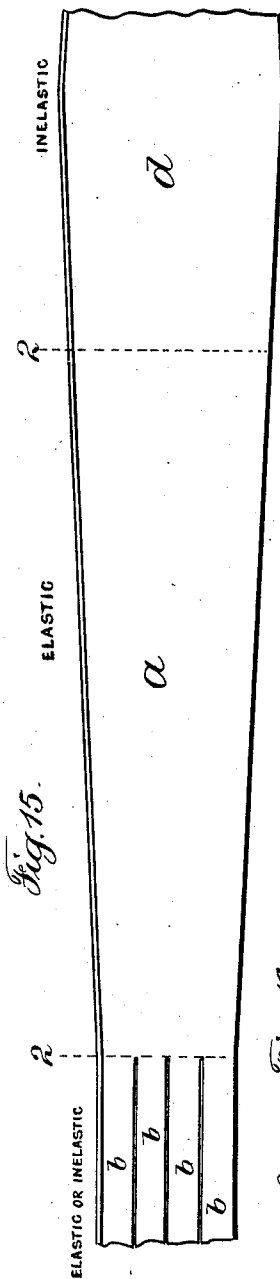
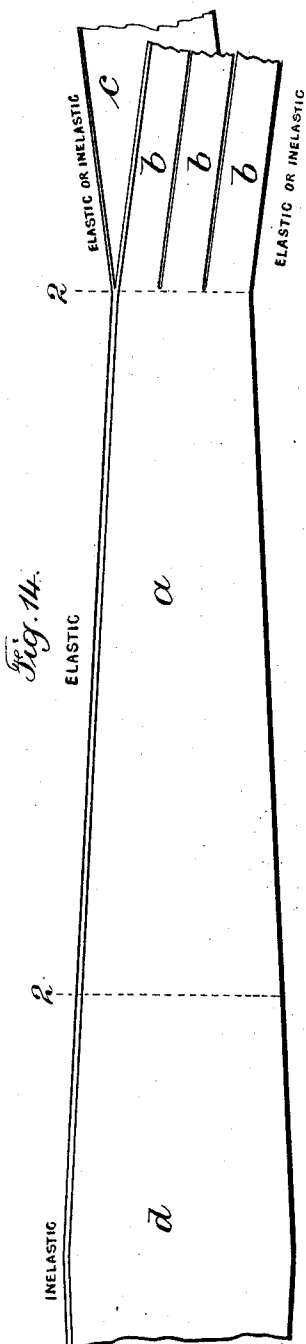
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

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ELASTIC WEBBING.

1,043,524.

Specification of Letters Patent.

Patented Nov. 5, 1912.

Application filed April 20, 1911. Serial No. 622,232.

To all whom it may concern:

Be it known that I, WALDEMAR KOPS, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented an Improvement in Elastic Webbing, of which the following is a specification.

My invention is designed as an improvement upon the flat strip elastic webbing shown and described in the following re-issued Letters Patent and applications, Re-issue No. 12962 to Samuel Kops, dated May 25, 1909, for elastic webbing, Reissue No. 12972 to Samuel Kops, dated June 8, 1909, for elastic webbing, application Serial No. 555,180 of Waldemar Kops, filed April 13, 1910, for elastic webbing; application Serial No. 592,768 of Samuel Kops and Waldemar Kops, dated November 17, 1910, for elastic webbing, with the object of providing integral members useful in the arts and manufactures and having the possibility of separate and independent fastenings or anchorage provisions as part of various body appliances, supporters, etc.

In carrying out my invention and in the weaving process, I form the flat strip elastic webbing with a plurality of integral members, continuing the longitudinal continuity of the webbing, and which are divided or separate from one another. These members may be elastic or inelastic with the elastic webbing; they may be in the form of a single flat series with the elastic webbing and of any desired length; they may be woven double, that is, in two parallel series both elastic or inelastic, or one series containing the elastic warps and elastic, and the other series without elastic warps and inelastic, or one series may contain the elastic warps and the other series only warp and weft threads and both sections be woven inelastic. The webbing thus woven may be severed at any desired place or places and the parts be made of any desired width or length according to the purpose for which the same is intended and made, but I have ascertained and demonstrated the advisability of making the elastic webbing of my invention as described.

In the drawing, Figure 1 is a plan broken across and Fig. 2 an edge view also broken across and illustrating the simpler form of my invention. Fig. 3 is a plan broken across and Fig. 4 an edge view also broken

across showing the plurality of integral members as formed double, or in two horizontal superposed series. Fig. 5 is a plan broken across and Fig. 6 an edge view also broken across showing the elastic webbing of my invention as made of tapering form. Fig. 7 is a plan broken across and Fig. 8 an edge view also broken across illustrating the tapering webbing of my invention, with the plurality of integral members as made double, or in other words, in two horizontal superposed series. Fig. 9 is a plan broken across illustrating that the plurality of integral members may be made in the wider part of the webbing or in the narrower part, and Figs. 10 and 11 are edge views of parts of the webbing; Fig. 9 showing that the plurality of integral members may, according to Fig. 10 be made single, or according to Fig. 11, double, that is, in two horizontal superposed series. Fig. 12 is a perspective view showing the webbing with integral divided parts, one of which is a plurality of integral members and the other an undivided prolongation, and Fig. 13 is another perspective view showing the plurality of integral members in two series; the same as if the fabric made according to Figs. 3 and 4, or 7 and 8, was stood up edgewise, with the plurality of integral members in series spread apart. Fig. 14 is a plan toward one end of a webbing made according to my invention and adapted for use as an abdominal belt. Fig. 15 is a plan toward the opposite end of a similar webbing showing only a plurality of members at one end. Fig. 16 is a plan at the center of such webbing illustrating a parallel-sided inelastic central member between two tapering elastic members and which member is broken across in the illustration of its indefinite length, and Fig. 17 is a plan illustrative of such an abdominal belt.

Similar letters or numerals of reference in the respective figures apply to similar parts.

In the flat strip webbing of my invention, *a* represents elastic portions in all of the figures. These are broken across in the drawing so as to illustrate that they may be of any desired length. Furthermore, the webbing of my invention may be of any desired width as the width of the webbing and the length of the elastic sections, *per se*, do not form any necessary part of the inven-

tion. These elastic parts of the webbing are particularly indicated in the drawing between the transverse dotted lines 2 2 and 3 3. The webbing of my invention, furthermore, is advantageously woven of indefinite length and in alternate series; the series with regard to one another being also of the same or different lengths predetermined according to the uses the webbing is to be put in the arts and manufactures. Furthermore, the webbing of my invention as described and shown in the Reissue No. 12962 hereinbefore referred to, may be made with elastic and inelastic parts; the elastic parts being woven as usual under tension and the inelastic parts may also either be woven without tension or under the same tension as the elastic parts, according to the applications hereinbefore referred to. Therefore my invention is not to be limited by any of these underlying conditions.

The essential feature of my invention consists in providing the flat strip elastic webbing with a plurality of integral members which continue the longitudinal continuity of the webbing between the other alternating undivided members.

I have shown the plurality of integral members at *b* in Figs. 1, 2, 5, 6, 9, 10 and 12, and I have also shown other series or plurality of integral members at *b*¹ Fig. 13; it being a fact that the disclosure Figs. 12 and 13 may apply with equal force to any one of Figs. 3 and 4, 7 and 8 or 9 and 11.

In Figs. 1 and 2, the flat strip webbing is provided with the elastic portions *a* between the transverse dotted lines 2 2 and 3 3 and with the plurality of integral members *b* between the dotted lines 2 3 or 3 2, and while I have shown three integral members in the plurality, I do not limit my invention by the number of the integral members, because the same may be made narrow or wide, and the flat strip elastic webbing may be made with two, three or more integral members, according to the width of the webbing and the use to which the same is to be put thereafter; the said integral members being elastic or inelastic also according to the uses to which they are to be put.

In Figs. 3 and 4 I have indicated that the elastic or inelastic integral members may be double, that is, in two parallel series as shown in Fig. 4. I have also indicated a similar condition in Figs. 8, 11 and 13. I have further indicated in Figs. 5 and 6, that the elastic webbing may be made tapering as shown in the aforesaid Reissue No. 12972, and as between Figs. 5 and 7 and Fig. 9, I have also indicated that the plurality of integral members may be made in the widest part of the elastic or in the narrowest part of the elastic. As shown in Fig. 9, it may be a fact that the narrowest part as well as the widest part may be made

elastic or inelastic and the intermediate parts between the transverse dotted lines at 2 2 and 3 3 may be made elastic.

Referring particularly to Fig. 12, the plurality of integral members *b* are associated with an integral undivided member *c*. The said plurality of integral members *b* may be elastic or inelastic and the integral undivided member *c* may also be elastic or inelastic according to the after use to which the webbing is to be put.

Referring particularly to Fig. 13, the plurality of integral members *b* and the parallel superposed plurality of integral members *b*¹ may either of them be elastic or inelastic. On the other hand they may both be elastic or inelastic. Where both are elastic the elastic warp threads and the ordinary warp threads may be divided equally in each part and a second shuttle, or series of shuttles, be employed for weaving one of said parts. On the other hand, it may transpire to be advantageous to make the plurality of integral members *b* in Fig. 12 by means of several shuttles with all of the elastic strands through said members, and to weave the same elastic as described in my application Serial No. 555,180, with the integral undivided member *c* of warp and weft threads only so as to be inelastic. The plurality of integral members may also be formed according to the aforesaid application Serial No. 592,768, where the parts are made under tension of the elastic warp threads and in which the weft threads of the elastic sections are spaced and the weft threads of the plurality of integral members packed close together so as to make the integral members *b* of the plurality inelastic by the operation of the packing weft threads. It is therefore quite apparent that my invention is not limited by the way the webbing is made or by the various parts being elastic or inelastic, and that the invention extends primarily to the flat strip elastic webbing with a plurality of integral members which alternate in their series either single or double with the elastic sections. Furthermore, it would not depart from the spirit of my invention to reverse the conditions herein described, particularly in the case of the tapering webbing shown in Figs. 5 to 9 inclusive, and made conformably to the Reissue No. 12972, in which case the wider parts might be inelastic and the narrower parts elastic, and as an illustration of this condition, this tapering webbing might be made wide enough for an abdominal belt in which the wide part is inelastic and also undivided, and in which the narrower part and divided part is made elastic and also of such a length that when the divided parts are separated by severance at distant ends from the wide part, an abdominal belt could be formed which would have a number of divided parts at its respective

ends adapted for end buckles to be secured around the body at diverging places across the back.

For a full disclosure of my invention and for the purpose of illustrating an abdominal belt I have shown Figs. 14 to 17 inclusive, in which the central or widest portions or members *d* are inelastic and close woven, so as to have a supporting function and be substantially unyielding. At each side of this inelastic section there is an elastic section *a* of tapering outline and these elastic members *a* may terminate as shown in Figs. 12 and 14 with a plurality of members *b* that are elastic or inelastic, and a superposed member *c* which may be elastic or inelastic, or as shown in Fig. 15, with a plurality of members *b* which may be elastic or inelastic. As shown in Figs. 14 and 15, the central close woven inelastic member or section *d* is tapering in opposite directions from about the center, but as shown in Fig. 16, this section which is also to be of indefinite length may be parallel-sided and the elastic portions may taper from the opposite ends thereof. In Fig. 17 I have shown in outline a plan of what would be the construction of an abdominal belt with ends made according to the disclosure Fig. 14 and which belt because of its side elastic portions *a* may be placed over the head and arms and stretched into position. In this structure the ends of the portions or members *c* which are advantageously inelastic are preferably overlapped and sewed together at the ends of the respec-

tive members and the portions or members *b* in the plurality are butt-ended and sewed together and the single inner member or portion *c* which comes next to the body forms a comfortable base or support for the several elastic or inelastic members *b*. In such a belt I should prefer to make the members *c* inelastic and the members *b* elastic, and it will be also noticed from Fig. 17, that the wider inelastic portion is of appreciable extent so as to comfortably support the abdomen, and in connection with this belt it is immaterial as to my invention what may be the width of the inelastic central portion or of the elastic side portions or the extent of taper of the same.

I claim as my invention:

1. An elastic webbing consisting of a flat strip formed of an integral undivided section and an adjacent section at the respective ends of the aforesaid section comprising a plurality of integral members and also a parallel superposed plurality of integral members.

2. An elastic webbing consisting of a flat strip formed of an integral undivided section and an adjacent section at the respective ends of the aforesaid section comprising a plurality of integral members and also a parallel superposed integral section.

Signed by me this 18th day of April, 1911.

WALDEMAR KOPS.

Witnesses:

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