

S. KOPS.
ELASTIC WEBBING.
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1,075,831.

Patented Oct. 14, 1913.

Fig. 1

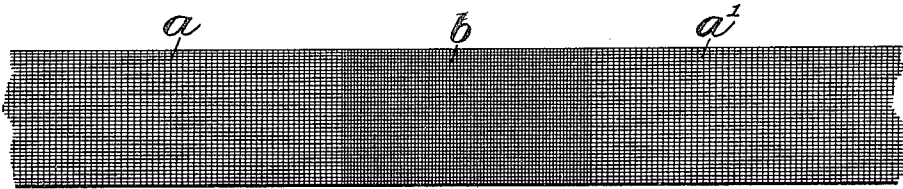
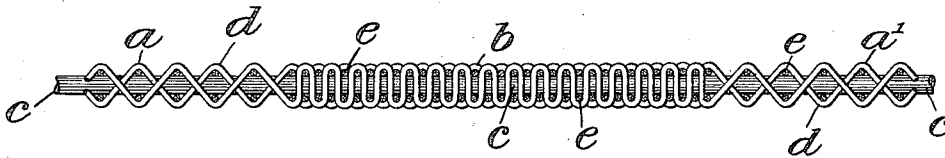


Fig. 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

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ELASTIC WEBBING.

1,075,831.

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To all whom it may concern:

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

My invention relates to an improvement in elastic webbing and to the particular class thereof in which the elastic webbing is made with alternating elastic and non-elastic sections; the respective lengths of which are at the pleasure of the manufacturers.

It has heretofore been usual to weave this elastic webbing with the elastic part under tension at the maximum elastic limit of the elastic strands and with the warp threads taut and to weave the non-elastic part under normal conditions without tension.

The object of my invention is to avoid weaving such distinct parts and changing the tension.

In carrying out my invention, the elastic strands are placed under tension and the warp threads drawn taut as usual and this condition is maintained throughout the weaving. The laying of the weft threads, however, is changed and manipulated, that is, the weft threads in the elastic sections are spaced appreciably so as to permit the elastic strands upon release to contract and the warp threads to assume a puckered relation and condition, while the weft threads in the non-elastic sections are closely pressed together, gripping the elastic strands so closely and tightly as to prevent contraction thereof upon the release of tension. These elastic and non-elastic sections are consequently integral prolongations of one another and while preferably made continuous as a webbing of any desired length and breadth, the same may be cut up into lengths in which the places of severance are preferably midway in such elastic and non-elastic sections.

In the drawing Figure 1 is a plan view representing a strip of webbing according to my invention, and Fig. 2 is a longitudinal section of exaggerated size for clearness.

Referring particularly to Fig. 1, $a a'$ represent the elastic sections and b the non-elastic section, and referring to Fig. 2, c represents one of the numerous elastic strands; d the warp threads and e the weft threads; Fig. 2 particularly representing as

a longitudinal section the fabric as in the act of being woven and under tension.

The elastic webbing may be of any desired width and of any desired length; the sections $a a'$ and b following one another as a continuous strip; the elastic sections $a a'$ being of any desired length and the non-elastic sections b also of any desired length.

In the manufacture of the elastic webbing according to my invention, the elastic strands are under tension and more or less at the elastic limit thereof, and the warp threads d are drawn taut. As woven the weft threads e in the parts $a a'$ are spaced, or in other words, laid at an appreciable distance apart so that when tension is released and the rubber strands contract, the weft threads e may assume a closer relation to one another and the warp threads d be more or less puckered until tension is again applied to the webbing.

In the weaving of the non-elastic sections b the weft threads are not spaced but are laid just as close together and in as compact a relation as possible; the same gripping the elastic strands under tension closely because of the closely pressed relation with the weft threads, and as made under tension, these non-elastic sections cannot be drawn out any farther than the condition in which they are woven, and when tension is released, they cannot be compacted any more or little more than the condition in which they are woven; consequently the said woven sections are to all intents and purposes non-elastic, and this non-elastic condition is even assisted by the tendency of the elastic strands to contract; the said contracting tendency which is one lengthwise of the strand and expansion in cross section, tending to bind the weft threads tightly and grip them in position, so that the sections b notwithstanding that they are woven integral and under tension with the sections $a a'$ are non-elastic and eminently adapted as an anchorage to a garment for the sewing and connected threads.

The webbing of my improvement may not only be made of any desired width, but as a continuous strip which may be cut up into suitable lengths either at or about the center of the sections $a a'$ and b , or only through the sections b , or only through the sections $a a'$ according to the uses for which the elastic webbing is to be applied.

I claim as my invention:

1. An elastic webbing consisting of a substantially flat strip woven under tension of the elastic strands and a taut condition of the warp threads wherein there are elastic sections formed by suitably spacing the weft threads and intermediate non-elastic sections formed by pressing the weft threads close together.
2. A length of elastic webbing woven under tension and a taut condition of the warp threads, wherein there are elastic sections formed by suitably spacing the weft threads, and intermediate non-elastic sections formed by weaving the weft threads close together.
3. A length of elastic webbing woven under tension and at substantially the maximum elastic limit of the elastic strands and in which there are elastic lengths or sections at spaced intervals, with intermediate and also spaced non-elastic sections, the elastic sections being formed by spacing the weft threads and the non-elastic sections being formed by pressing the weft threads closely together.
4. A length of elastic webbing having an elastic section and a sewing section both woven with the warp threads and rubber strands at the same tension, but the weaving in the sewing section being closer than the weaving in the elastic section for the constriction of the rubber-strand-receiving

channels in the sewing section, whereby the extended or stretched rubber strands in the sewing section are held against lengthwise movement therein.

5. A length of elastic webbing having an elastic section and a sewing section both woven with warp threads and rubber strands at the same tension, but having the warp and filling threads more frequently interlaced in the sewing section than in the elastic section for the constriction of the rubber-strand-receiving channels in the sewing section, whereby the extended or stretched rubber strands in the sewing section are held against lengthwise movement therein.

6. An elastic webbing having elastic and sewing sections alternating at regular intervals and woven with the warp threads and rubber strands at the same tension, but the weaving in the sewing sections being closer than the weaving in the elastic sections for the constriction of the rubber-strand-receiving channels in the sewing sections, whereby the extended or stretched rubber strands in the sewing sections are held against lengthwise movement therein.

Signed by me this 11th day of July, 1911.

SAMUEL KOPS.

Witnesses:

HEINRICH SCHROEDER,
HEINR. DEMMER.

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