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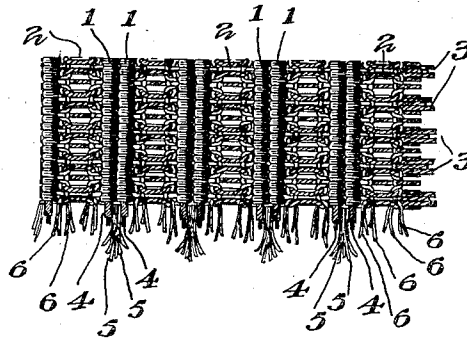
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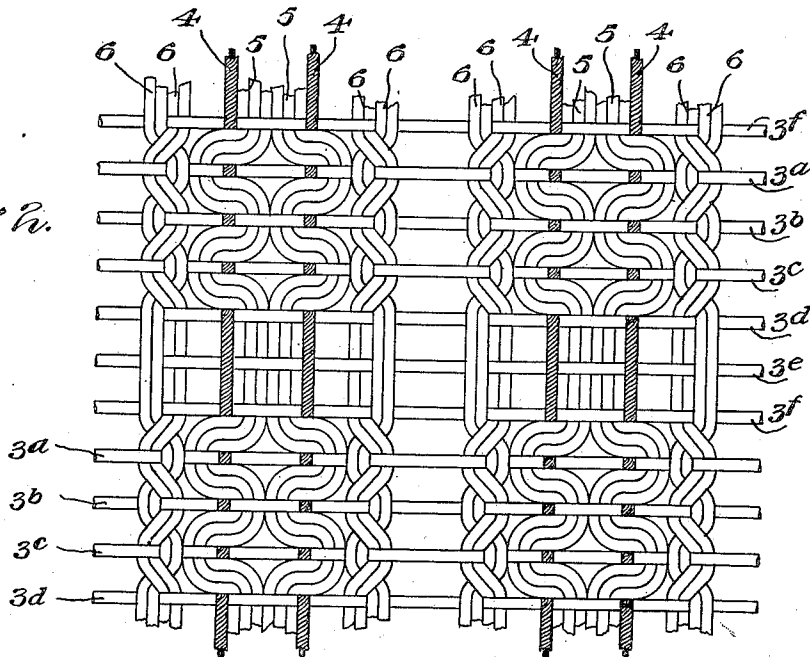
ELASTIC WEB

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*Fig. 1.*



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

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## ELASTIC WEB.

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*To all whom it may concern:*

Be it known that I, THOMAS MOORE, a citizen of the United States, residing at Westerly, in the county of Washington, State of Rhode Island, have invented a certain new and useful Improvement in Elastic Webs, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in an elastic web of novel and improved construction rendering the web porous so as to provide for ventilation and in general adapting it for use in elastic garments, surgical bandages, inserts, brassières, garter webbing, etc. Such construction effectively ties or binds the elastic warp cords thereof in place so as to prevent slipping of the said cords. It enables the web to be manufactured at comparatively low cost and sold at a reasonable price. It gives the web an attractive design.

The said elastic web is characterized by elastic longitudinal ribbed portions and longitudinal openwork portions alternated with said ribbed portions widthwise of the web, with the elastic warp cords, the warp threads, and the wefting, combined as I will now describe with reference to the accompanying drawings, in which latter,—

Fig. 1 is a face view of a piece of such web in a normally contracted state.

Fig. 2 is a diagrammatic view on a larger scale showing the component cords and threads separated from one another, and indicating their general interrelationship, but not showing the final appearance of the finished fabric.

Having reference to the drawings,—

The longitudinal ribbed portions of the web shown therein are marked 1, 1, and the longitudinal openwork portions alternating with said portions 1, 1, are marked 2, 2.

The picks of weft or filling which enter into the construction of the web are referred to in general by the numeral 3. Particular picks are identified by the aid of exponents. At 4, 4, are shown elastic warp cords, preferably having a wrapping or covering of fibrous material as frequently in the art. These cords lie entirely at one side of the series of picks of weft, that is to say, on top of the said series. At 5, 5, are cord covering and binding warp threads which respectively are cross-woven over the tops of the respective cords so as to engage with and cover the cords at the upper face of the fab-

ric, and are interwoven with the successive picks of weft entirely at the under face of the fabric. At 6, 6, are supplemental warp threads in pairs, one pair located at one side of the set of warp cords comprised in a longitudinal ribbed portion of the fabric, and a second pair located at the opposite side of said set of warp cords, the two threads 6, 6, of a pair being cross-woven with each other and with the successive picks of weft.

Each repeat of the weave shown in Fig. 2 comprises six picks of weft, viz: 3<sup>a</sup>, 3<sup>b</sup>, 3<sup>c</sup>, 3<sup>d</sup>, 3<sup>e</sup>, and 3<sup>f</sup>. In the case of pick 3<sup>a</sup> the two cord covering and binding warp threads 5, 5, which are associated with the two elastic warp cords 4, 4, of a ribbed portion of the web extend in opposite directions away from each other across the tops of the two cords 4, 4, and are in engagement with the said pick below the cords, at the outer sides of the cords. In the case of pick 3<sup>b</sup> the two threads 5, 5, extend toward each other across the tops of the two cords 4, 4, and are in engagement with such pick, below the cords, between the latter. In the case of pick 3<sup>c</sup> the threads 5, 5, extend outwardly, etc., as in the case of pick 3<sup>a</sup>. Next, the said threads extend inwardly toward each other and under picks 3<sup>d</sup>, 3<sup>e</sup>, 3<sup>f</sup>, completing the sequence. The two threads 6, 6, of each pair thereof are crossed with each other between pick 3<sup>a</sup> and pick 3<sup>b</sup>, again between picks 3<sup>b</sup> and 3<sup>c</sup>, again between picks 3<sup>c</sup> and 3<sup>d</sup>, but remain uncrossed again until next succeeding pick 3<sup>f</sup>, following which they cross between pick 3<sup>f</sup> and the first pick, 3<sup>a</sup>, of the next repeat. It will be perceived that picks 3<sup>a</sup>, 3<sup>b</sup>, and 3<sup>c</sup>, are held individually separate by the crossings at each side of each thereof, but that the three picks 3<sup>d</sup>, 3<sup>e</sup>, and 3<sup>f</sup>, are collectively grouped between floats of the warp threads 5, 5, and 6, 6, above and below them.

Fig. 2 shows the fabric as it would appear if stretched lengthwise and if loosely woven and without the successive picks of weft being beaten up against one another in the course of the weaving. In actual practice the successive picks are beaten up close together, with the result that the portions of the covering warp threads 5, 5, which lie across the tops of the elastic warp cords come close together, covering and concealing the said cords. Also, the three picks 3<sup>d</sup>, 3<sup>e</sup>, 3<sup>f</sup>, come close together, forming a transverse band of weft, which bridges the interval between one ribbed portion 1 and the

next. Between the successive ribbed portions, the connecting portions of the picks 3<sup>a</sup> and 3<sup>c</sup> separate from the pick 3<sup>b</sup> and lie close to the picks 3<sup>f</sup> and 3<sup>d</sup> so that they virtually form elements of the said weft bands, thereby producing eyelets intermediate one weft band and the next, between picks 3<sup>a</sup> and 3<sup>b</sup>, and between picks 3<sup>b</sup> and 3<sup>c</sup>. These features are illustrated in Fig. 1.

10 The pick 3<sup>b</sup> extends by itself, straight across the interval between one ribbed portion and the next, as shown, between two successive eyelets.

What is claimed as the invention is:—

15 An elastic woven fabric comprising longitudinal ribbed portions alternated with longitudinal openwork portions, each longitudinal ribbed portion containing one or more covered elastic cords, one or more  
20 warp-threads respectively cross-woven over

the respective cords so as to cover the latter at one face of the fabric and interwoven with weft at the opposite face, and pairs of binder warp-threads cross-woven with each other and the weft-picks at opposite sides of each ribbed portion, with all the weft-picks located wholly at one face of the cords, and with the said covering warp-threads and binder warp-threads crossing after each of a succession of individual picks of weft and engaged with the said picks at the said opposite face, and then floated without crossing for the following succession of picks, such floating grouping the latter succession into transverse bars which extend across the openwork portions so as to divide the latter into a succession of eyelets, each eyelet crossed by one of the individually bound picks.

THOMAS MOORE.