

(Specimens.)

T. TAYLOR.
ELASTIC FABRIC.

No. 363,434.

Patented May 24, 1887.

Fig. 1.

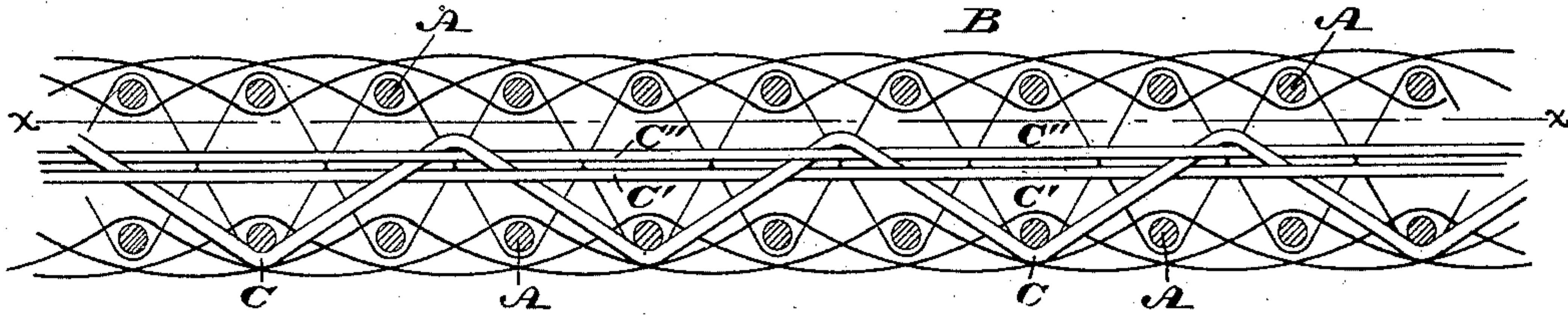


Fig. 2.

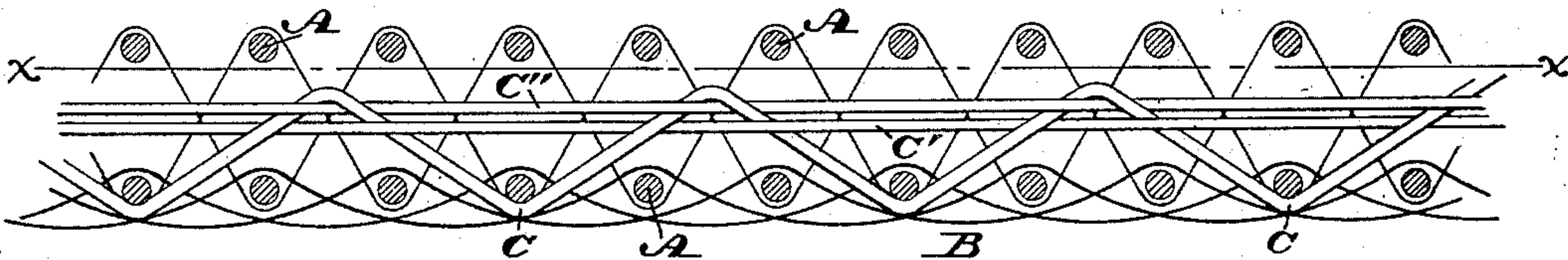


Fig. 3.

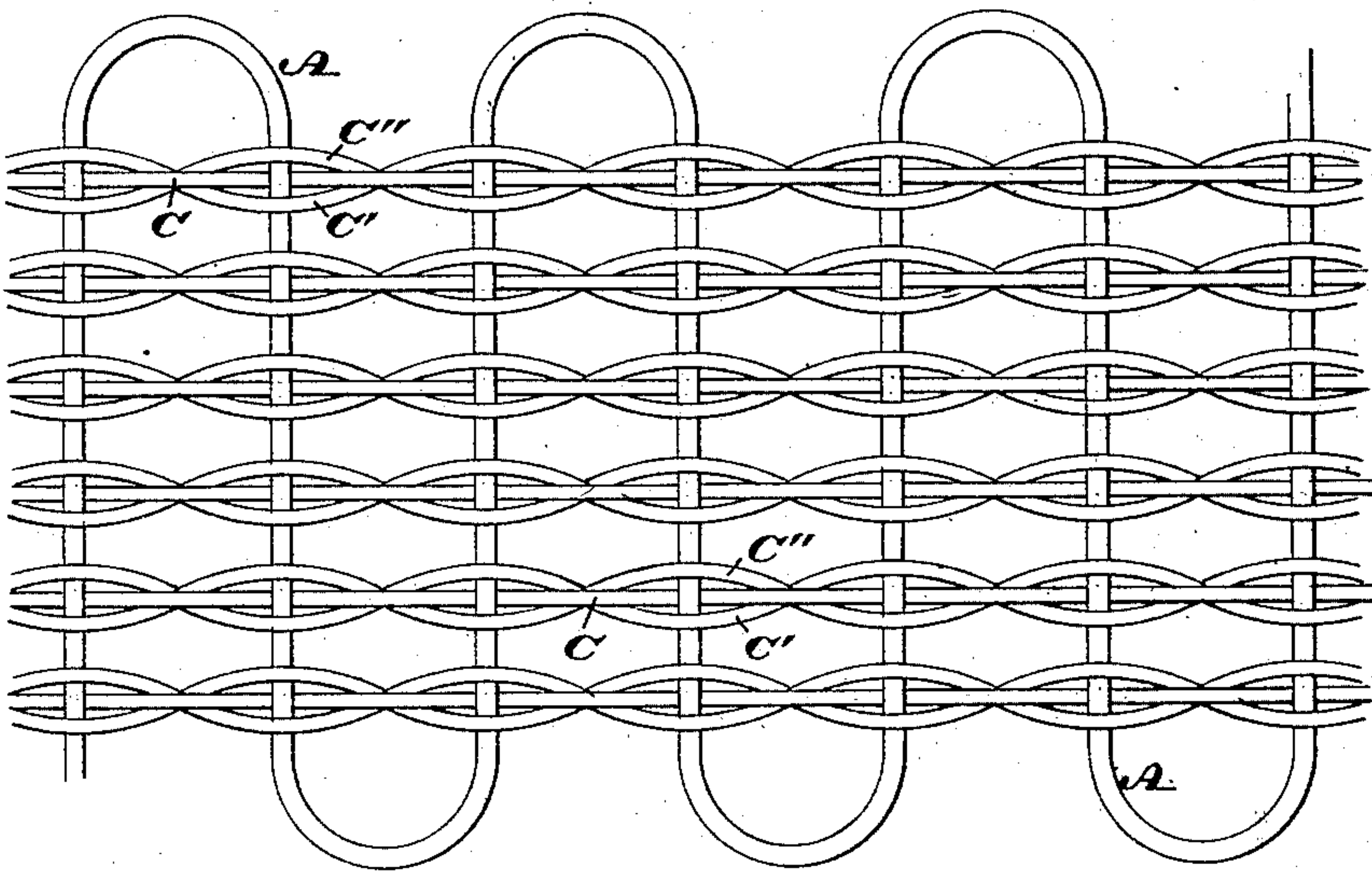


Fig. 4.

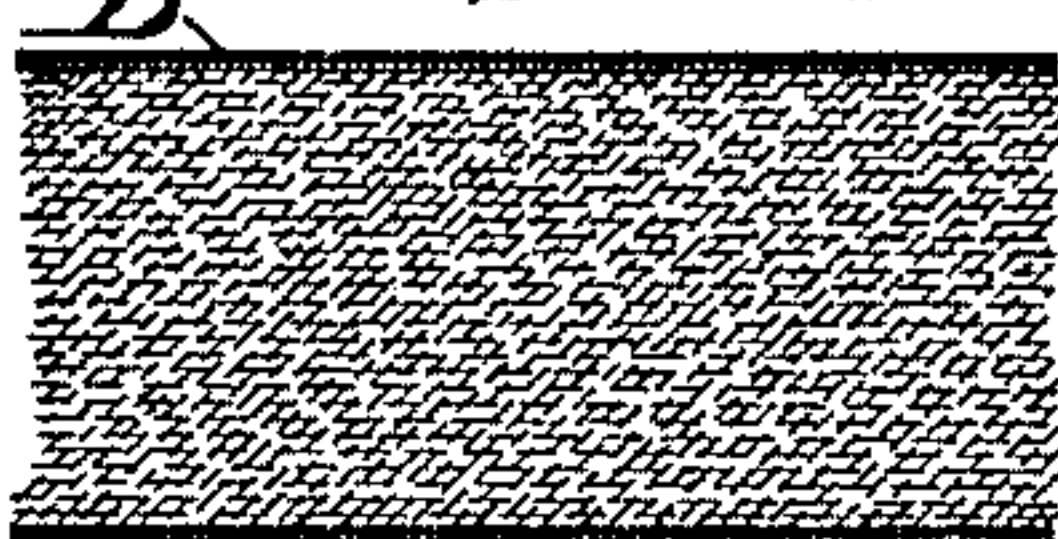
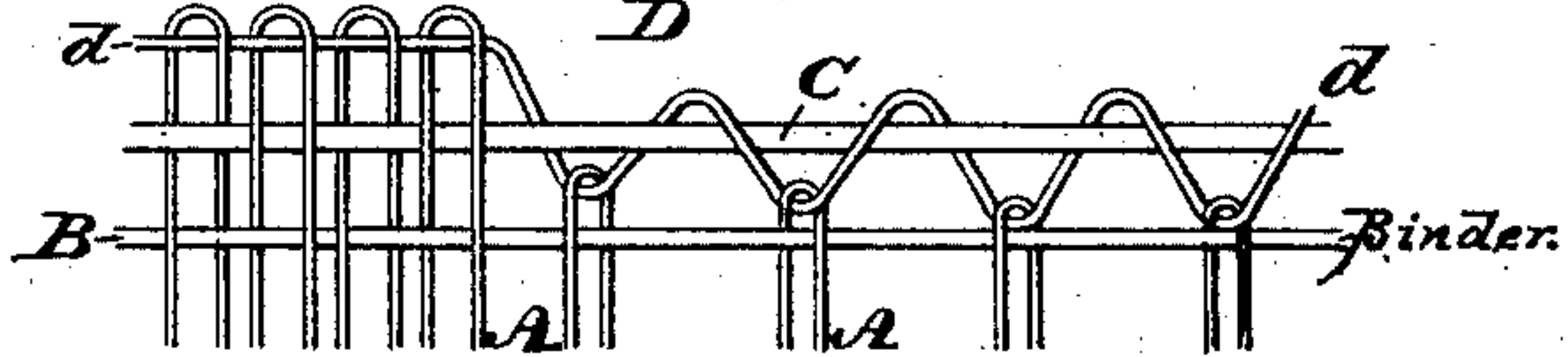


Fig. 5.



WITNESSES:

A. P. Grant,
H. F. Kircher

INVENTOR:

Thomas Taylor

BY

John A. Diebenkorn, ATTORNEY.

UNITED STATES PATENT OFFICE.

THOMAS TAYLOR, OF CAMDEN, NEW JERSEY, ASSIGNOR OF ONE-HALF TO
IRVINE C. BEATTY, OF SAME PLACE.

ELASTIC FABRIC.

SPECIFICATION forming part of Letters Patent No. 363,434, dated May 24, 1887.

Application filed May 19, 1886. Serial No. 202,617. (Specimens.) Patented in England July 21, 1881, No. 3,178, and in Canada
May 23, 1882, No. 14,824.

To all whom it may concern:

Be it known that I, THOMAS TAYLOR, a subject of the Queen of Great Britain, residing in the city and county of Camden, State of New Jersey, have invented a new and useful Improvement in Elastic Fabrics, (for which I have obtained a patent in Great Britain, July 21, 1881, No. 3,178, and in Canada, May 23, 1882, No. 14,824,) which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 represents a longitudinal section of a piece of elastic webbing or fabric embodying my invention. Fig. 2 represents a longitudinal section of another form thereof. Fig. 3 represents a longitudinal section thereof in line *x x*, Figs. 1 and 2, the binder and surface threads being omitted. Fig. 4 represents a face view, on a reduced scale, of a piece of elastic webbing or fabric embodying my invention. Fig. 5 represents a top view of the edge of the webbing or fabric.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of an elastic webbing or fabric, the novelty whereof is, first, in the locking of the rubber threads, and, second, the covering of the edges with silk or other material.

Referring to the drawings, A represents the weft-thread or filling of the webbing or fabric, and B the fibrous warp-threads of the face and back of the webbing or fabric. The rubber threads C C' C'' are cross-woven and extend lengthwise in the direction of the length of the fabric, and are locked together in the following manner: One, C, of the threads passing at intervals beneath the threads of the filling and over the crossing or intersection of the other two rubber threads, C' C'', the same rubber thread, C', being always the under one at each of the said crossings. Instead of thread C being rubber, one of yarn or other material may be used.

D represents an edge made of silk or other material, the thread *d* thereof covering the edge rubber by first passing over it to the first binding-thread. Then it passes back beneath the rubber, and then over it, each time going to the first binding-thread.

The manner of manufacturing or making the improved elastic fabric hereinbefore described is as follows: A loom of the character fully described in application of even date herewith, and for which Letters Patent is asked, is used. In the loom therein described are perforated plates or slides, through which the rubber threads pass, instead of being drawn in the ordinary manner. The plates are worked by cams or other agencies at given intervals, by means of which motion two of the rubber threads are caused to cross each other, allowing at other intervals another thread, C, of rubber, cotton, or other material, to pass through them. I also employ needle-mails having in the center of each a fork or needle, through the eye of which is conveyed the thread C, which is passed over the slides, and on each side of which needle is a space, allowing the rubber threads C' C'' to alternate their position at each lateral movement of the perforated plates, the shuttles in their motion being passed between the rubber threads C' C'' and the lock-thread, whereby the rubber threads are firmly locked by threads passing through the mails, and are thus cross-woven in the fabric, which latter may be of any design.

In Fig. 1 is shown a full terry-twill web having different faces and back threads, while in Fig. 2 is shown a mock terry or swiss web, one face of which is like that of the full-twill terry, while the back is formed of weft and binding threads.

In weaving the novel edge I employ a catch-thread, which is wound upon a spool fixed in the warp-crotch or other convenient place behind the loom. In a double-shuttle fabric this catch-thread is passed through a needle-mail on the binder-shaft, and the shuttles in their motion pass around the catch-threads alternately, whereby the filling in the top shuttle draws the catch-thread over the edge rubber to the first binder-thread, and next the filling in the bottom shuttle draws the catch-thread underneath the edge rubber, back over it to the binder-thread.

In a single-shuttle fabric the edge rubber is worked two up and two down, or at given intervals the catch-thread is worked in a similar manner, following the rubber one pick, the

shuttle in its ordinary course going round the catch-thread, thereby enabling the filling to draw the catch-thread over and under the edge rubber alternately to the first binder-thread.

5 Edges of this character can be applied to any elastic fabric.

The advantages possessed by this improved elastic fabric are, first, the rubber threads, being locked, will not slip from their position if
10 severed by any cause—such as being cut with a needle while being sewed in the gussets of shoes—thus rendering the fabric more durable and enabling it to retain its shape more perfectly; second, the edges are made flat and
15 much smaller than if round or “terry-edged,” and, third, the catch being independent of other threads, silk or other material stronger or tougher than the body of the web can be employed.

20 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An elastic fabric having sets of cross-woven threads extending lengthwise of the fabric, one of said threads binding the others, 25 which are elastic, to the filling-thread of the fabric, substantially as described.

2. An elastic fabric having sets of three cross-woven threads extending lengthwise of the fabric, two of which are of rubber or other 30 elastic material, the third thread passing above the crossing of the rubber threads and below the filling-threads of the fabric, substantially as described.

3. An elastic fabric having an edge formed 35 of a thread passing through the ends of the loops of filling-thread and over an edge-rubber strand which is outside of the filling-thread, all substantially as described.

THOMAS TAYLOR.

Witnesses:

JOHN A. WIEDERSHEIM,
ROBT. AITON.