

(Specimens.)

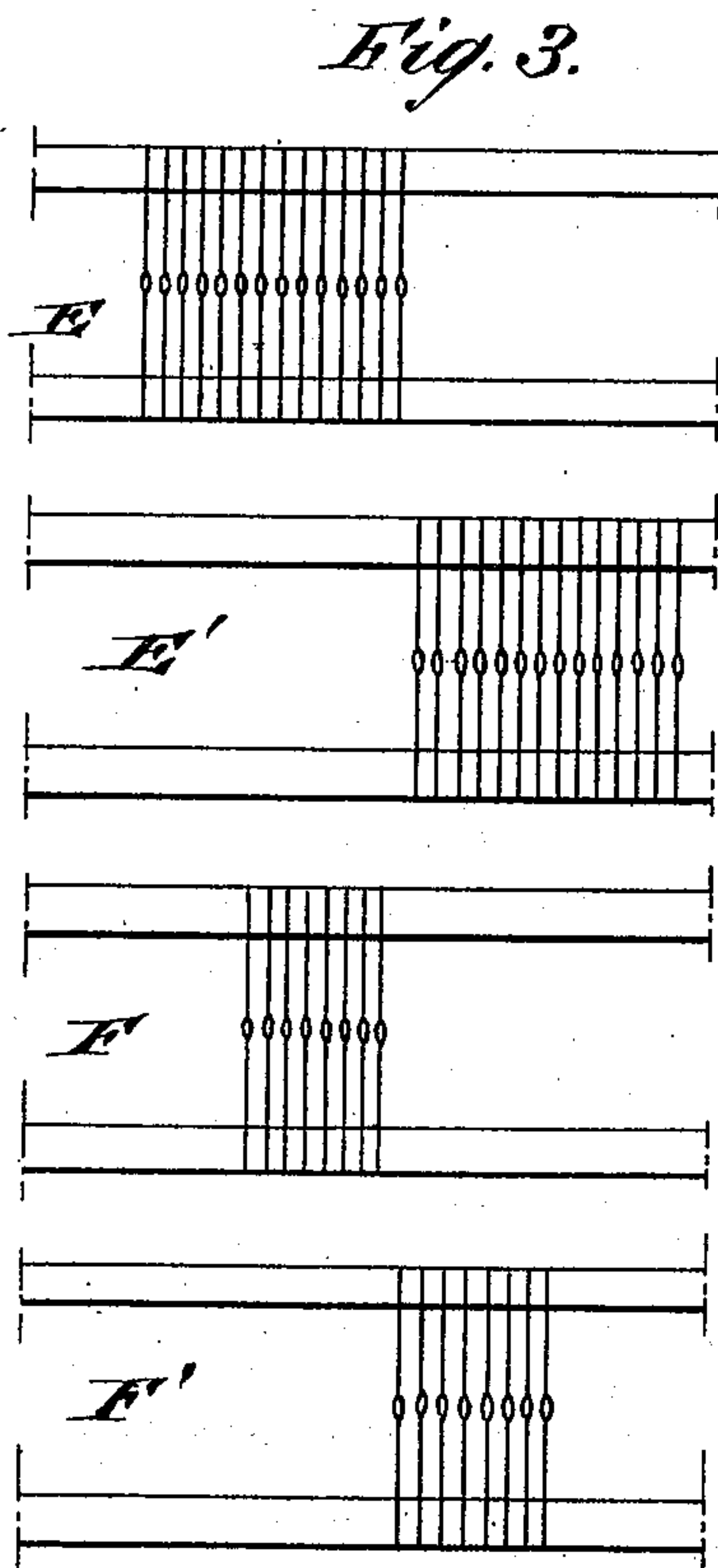
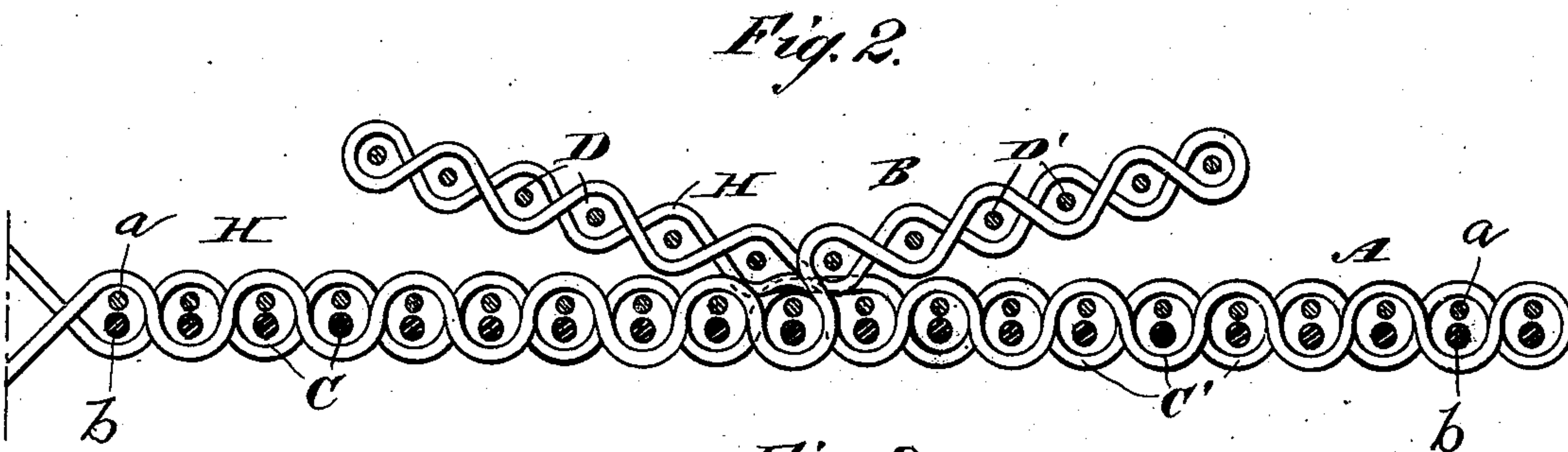
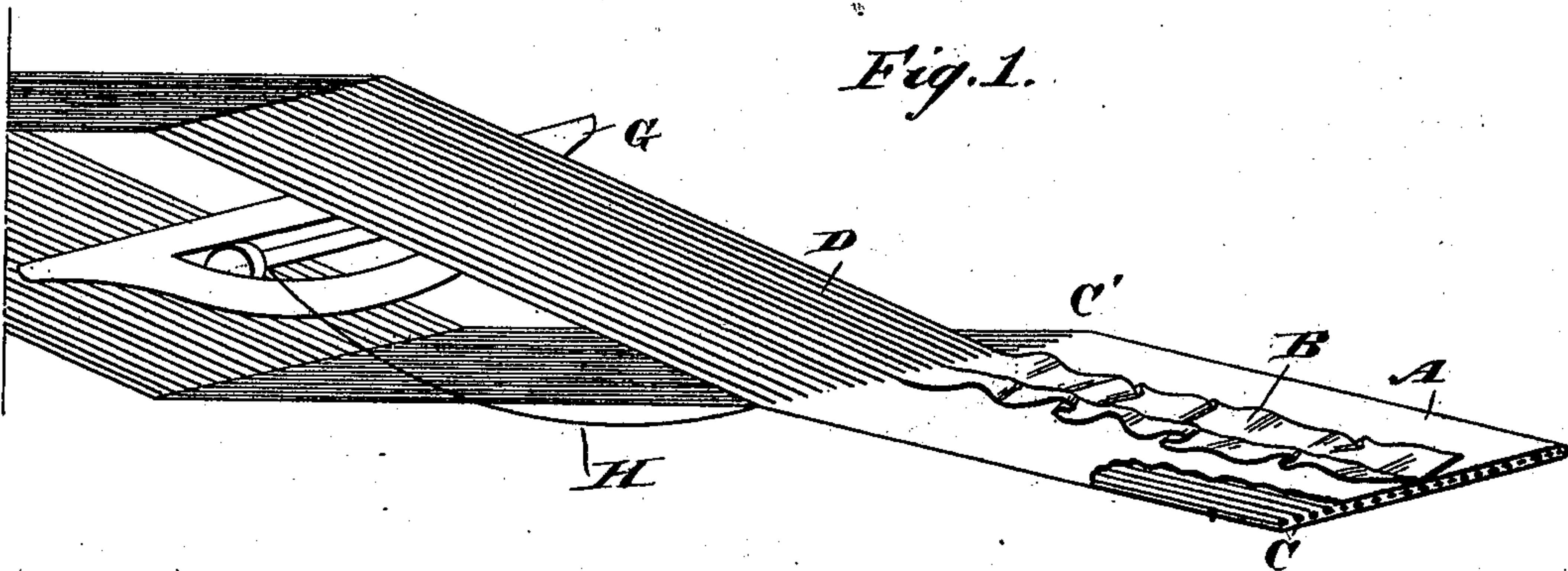
2 Sheets—Sheet 1.

S. BROWN.

METHOD OF WEAVING ELASTIC FABRICS.

No. 502,699.

Patented Aug. 8, 1893.



WITNESSES:

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C. Sedgewick

INVENTOR

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Fig. 4.

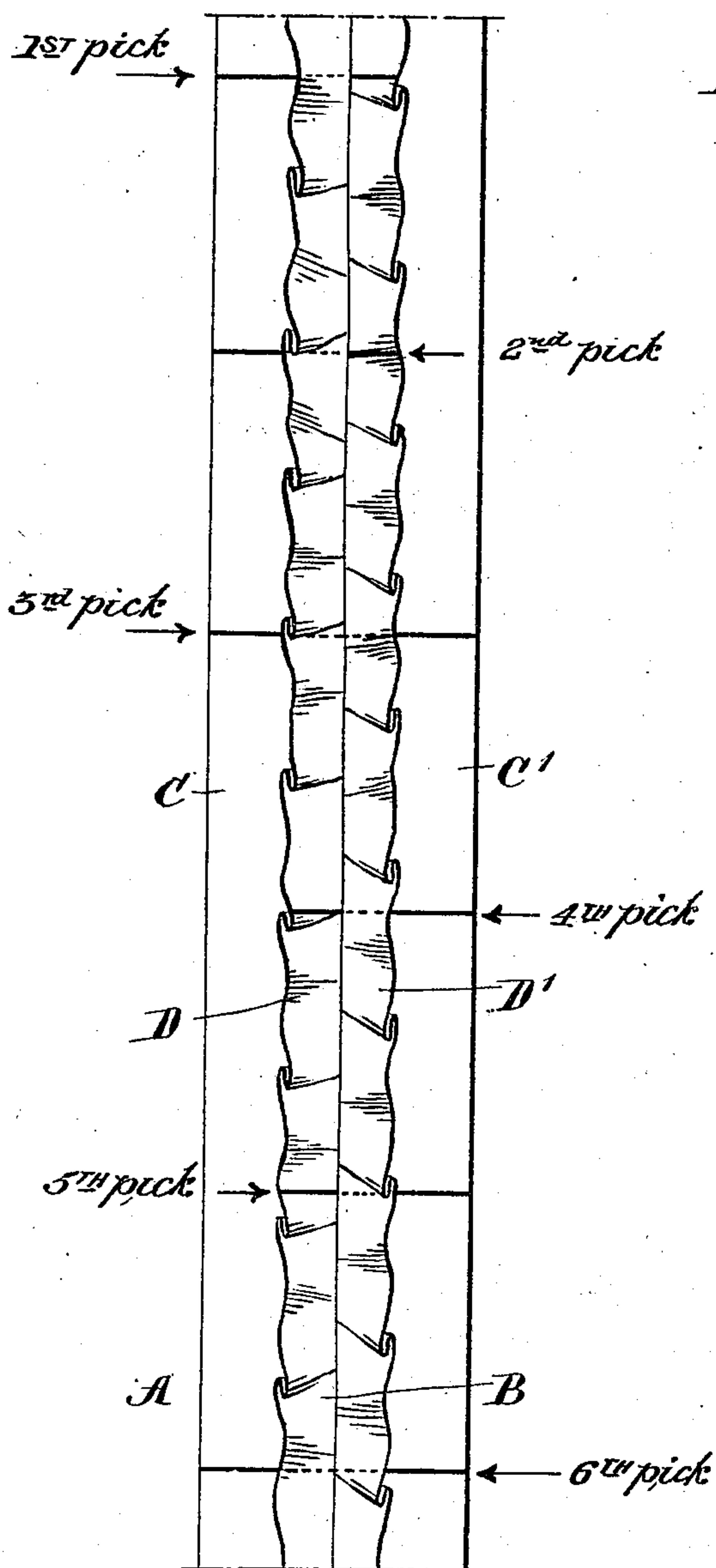
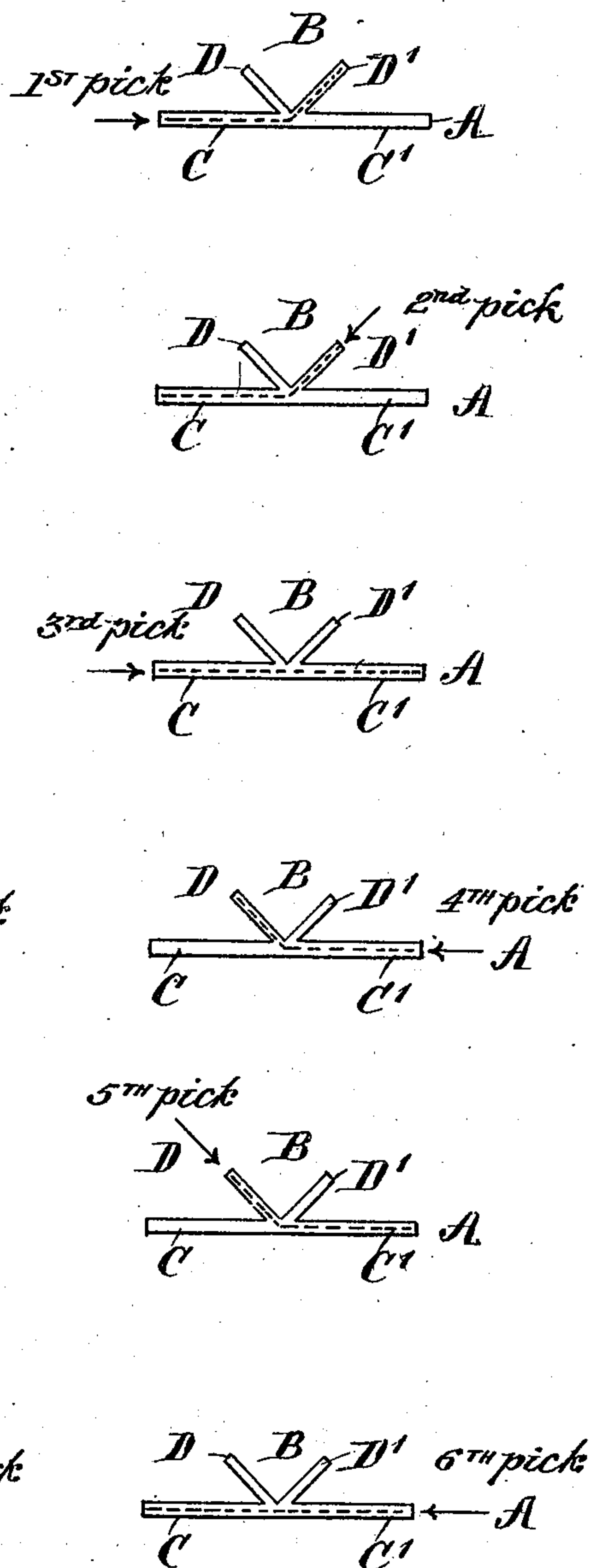


Fig. 5.



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UNITED STATES PATENT OFFICE.

SAMUEL BROWN, OF EASTHAMPTON, MASSACHUSETTS.

METHOD OF WEAVING ELASTIC FABRICS.

SPECIFICATION forming part of Letters Patent No. 502,699, dated August 8, 1893.

Application filed June 21, 1892. Serial No. 437,469. (Specimens.)

To all whom it may concern:

Be it known that I, SAMUEL BROWN, of Easthampton, in the county of Hampshire and State of Massachusetts, have invented a new and Improved Method of Weaving Elastic Fabrics, of which the following is a full, clear, and exact description.

The invention will first be described and then specifically pointed out in the claim.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the fabric and illustrating the mode of weaving the same. Fig. 2 is an enlarged transverse section of the woven fabric; and Fig. 3 is a front elevation of the arrangement of the harness for weaving the fabric. Figs. 4 and 5 illustrate the method of picking.

In Fig. 4 where the dotted lines occur they indicate where the weft passes under the corresponding frill section while the full lines indicate where the weft passes through the body and frill sections.

The improved fabric is formed with a body part A, on one face of which is arranged a frill B, woven integral with the body A. In weaving the fabric I form the warp for the body A of the fabric in two sections C, C', arranged one alongside the other, and in a similar manner the warp for the frill B is arranged in two sections D, D', also arranged alongside each other and above the other sections C, C'.

As shown in Fig. 3, the harness is made in two sections E, E', for the corresponding sections C, C', of the warp for the body A, and in a like manner the harness for the frill B, is made in two sections F, F', for the sections D, D', of the warp for the said frill. Only one single shuttle G is employed in weaving the entire fabric, the said shuttle passing alternately over corresponding sections and under the other sections so as to carry the weft thread H, alternately over and under alternating sections of the warps for both the body A and the frill B.

It will be seen by reference to Figs. 1 and 2, that one body warp section operates with the corresponding frill warp section, and the several sections are divided at the middle or center so that the shuttle alternates or inter-

changes with the body sections and frill sections of warp or both body and frill sections combined, in a regular order to unite the body with the frill, as will be readily understood by reference to the drawings. It is understood that the body A of the fabric is made in the usual manner by the weaves generally employed for this purpose, such as plain, twill, double and single cloth weaves, and the elastic body may be either plain or ornamental with figures as heretofore.

In Fig. 2, *a* represents the inelastic body warps and *b* the elastic body warps.

As the warp for the body A of the fabric is made elastic while the warp for the frill is made of a non-elastic material, it will be readily understood that when the fabric has been woven and the elastic warp contracts it causes the frill warp to frill or ruffle the top fabric.

It is understood that different kinds of body weaves such as plain and twill for instance, necessitate a different number of picks to make a repeat for a desired pattern.

I will now describe in detail the method of picking.

First. There are as before stated two distinct sets of harness for the main fabric, one for each side of the web, being divided midway between the two selvages. Into each of these sets of body harness are threaded the warps which make the main body of the fabric.

Second. There are two distinct sets of harness to operate the frill or ornamental part as before described and each frill section has a separate warp threaded in it. The method of operating and interchanging may be varied according to the nature of the body weave required, but is preferably operated as follows: first pick, (see Figs. 4 and 5,) from left to right through body section C continuing through part D' of the frill while part C' of body remains down and frill section D remains up; second pick, from right to left returning through frill section D' and body section C while body section C' remains down and frill section D remains up; third pick, from left to right, passing through the whole of the body C C' while both frill sections D D' remain up; fourth pick, from right to left returning through body section C', continuing through frill section D while the body section C remains down and the frill section

D' remains up; fifth pick, from left to right returning through frill section D and continuing through body section C' while body section C remains down and frill section D' 5 remains up; sixth pick, from right to left through the whole body C C' while both frill sections remain up, the shed being changed after each pick. This order of the passage of the shuttle through the different sheds shall 10 be repeated, although an endless variety of weaves may be employed as before stated.

It will be understood that to effect the proper shedding operations the loom must be provided with two of each of the harnesses 15 shown in Fig. 3.

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

The method of producing an elastic fabric 20 having a superposed frill the body and frill being united at their longitudinal centers by a single weft thread, the same consisting in dividing the warps into four sets, two for the

body some of which are elastic and two for the frill, then shedding the first set of body 25 warps and the opposite set of frill warps, introducing a weft thread from left to right through the threads of both of said sets, then shedding the same sets of threads and returning the weft therethrough from right to left, 30 then shedding both sets of body warps and passing the weft from left to right through all of the body threads of both sets, then shedding the second set of body warps and the opposite or first set of frill warps then passing 35 the weft thread from right to left through both of said sets, then shedding the same two sets of warps and returning the weft thread from left to right, then shedding both sets of body warps and passing the weft thread from 40 right to left through the said body warps, substantially as set forth.

SAMUEL BROWN.

Witnesses:

HORATIO G. KNIGHT,
G. H. LEONARD.