

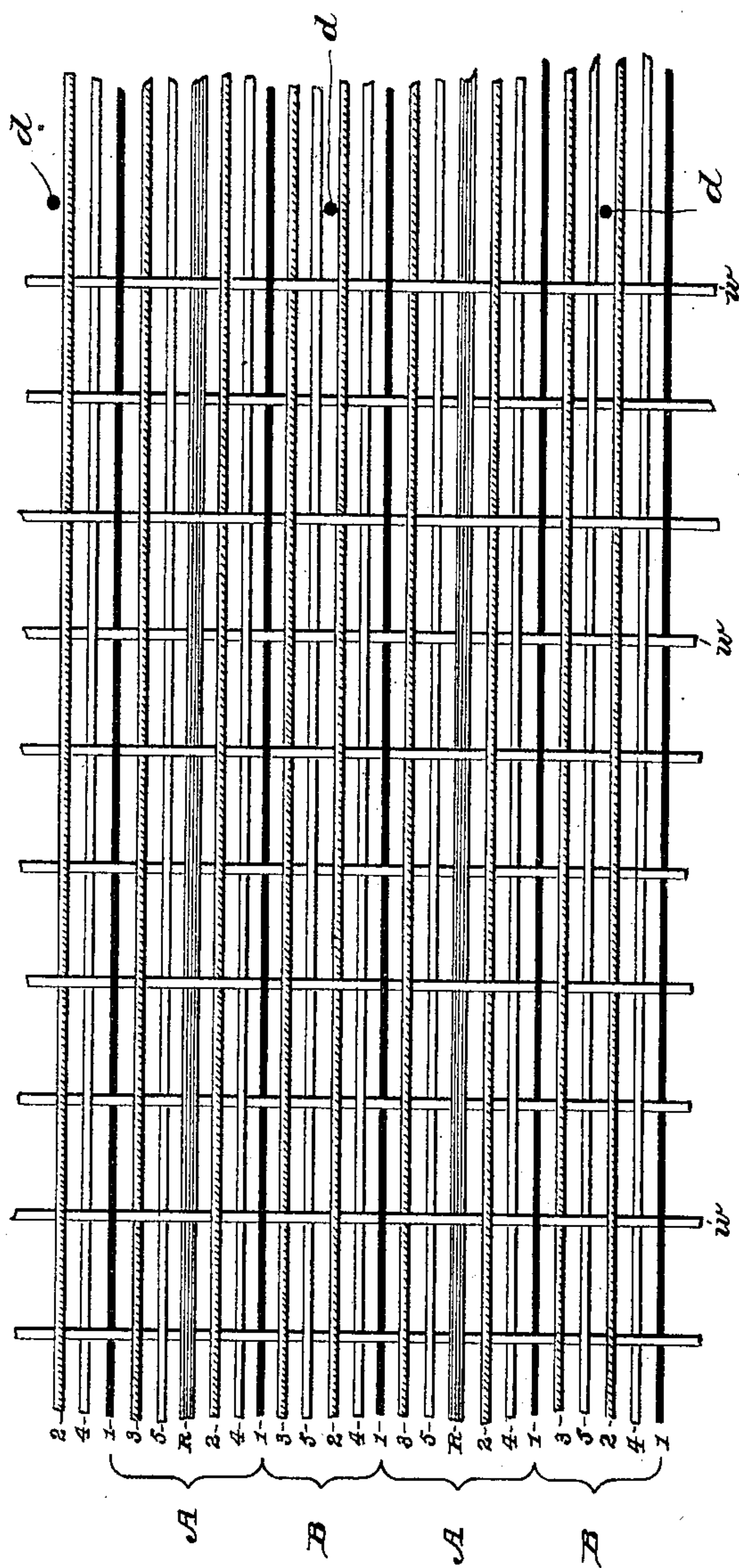
(Specimens.)

G. C. MOORE & J. W. GREEN, Jr.

ELASTIC FABRIC.

No. 368,230.

Patented Aug. 16, 1887.



Witnesses

L. B. Corner Jr.
J. C. Huntington

Inventors:
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UNITED STATES PATENT OFFICE.

GEORGE C. MOORE AND JOSEPH W. GREEN, JR., OF EAST HAMPTON,
MASSACHUSETTS.

ELASTIC FABRIC.

SPECIFICATION forming part of Letters Patent No. 368,230, dated August 16, 1887.

Application filed March 16, 1887. Serial No. 231,143. (Specimens.)

To all whom it may concern:

Be it known that we, GEORGE C. MOORE and JOSEPH W. GREEN, Jr., citizens of the United States, residing at East Hampton, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements in Elastic Fabrics, of which the following is a specification, reference being had therein to the accompanying drawing.

10 The object of our invention is to produce an elastic fabric which will present a smooth and close appearance, and in which, for a given number of dents of the reed to the inch, the rubber warps will be bound in in the strongest possible manner, without making the fabric too heavy for use or too expensive for the market in which it is to be sold.

15 In the ordinary manner of weaving terry-webs the plies forming the face and back of the fabric are united by binders, there being a binder-thread for each rubber thread, so that there will be one binder between each two rubber threads in the fabric. The binders form tubes in which the rubber threads are inclosed, and if the reed has twenty dents to the inch each rubber thread will have a space equal to one-twentieth of an inch crosswise of the fabric to slip in. In some fabrics, which are an improvement on those just above referred to, 20 two binders are employed for each rubber thread, one binder being next to the dent of the reed and the other next to the rubber. This arrangement of the binders will form alternate tubes, with and without rubber warps; but the empty tubes (or those without rubber threads) are crowded too much together to bind the rubbers in firmly, and, owing to the arrangement of the binders next to the dents of the reed, the face and back of the fabric are bound together at points where the warps are separated by the reed, so that a small streak or opening is left at each such point, thus interfering with that closeness of appearance which the fabric should have.

25 In our improved fabric two binders are employed to each rubber thread, thus forming alternate tubes with and without rubber. One or more fibrous warps are interposed between each rubber warp and binder, and the warps are so arranged in the reed that the dents or splits of the latter come between the warps

forming the empty tubes. Thus as the reed beats up the weft the fibrous warps are pressed toward the rubber warps, and the empty tubes occupy about the same space as the tubes with rubber warps, and, owing to the fact that the dents of the reed are separated from the binders by one or more fibrous warps, no openings or streaks are left in the finished fabric, and the rubber warps are closely buried and strongly bound in their tubes. In fact, with a fabric thus woven in a twenty-dent reed the rubbers are bound in equally as well as they would be in a fabric made in a forty-dent reed made in the old way, while it would be impracticable to make a fabric in a forty-dent reed, and even if it could be made it would be too heavy and clumsy for use.

30 In the accompanying drawing we have represented in enlarged plan view a section of fabric woven according to our invention.

35 In this fabric 1 denotes the binders; 2, the face warps from the first face harness; 3, the face warps from the second face harness; 4, the back warps from the first back harness; 5, the back warps from the second back harness; R, the rubber warps; w, the weft, and d the positions between the warps occupied by the dents of the reed.

40 The brackets A denote the tubes with rubber warps, and the brackets B the empty tubes, or tubes without rubber warps, the binder-warps 1 forming the divisions between these tubes. Thus in the fabric herein illustrated it will be seen that there are two fibrous warps between each of the binders and the rubber warps, and that there are four fibrous warps in each of the empty tubes, and the same number of fibrous warps in the tubes having rubber warps. The binders are alternated with the rubber warps at each pick, the face warps are woven three picks up and one down, and the back warps three picks down and one up. We do not, however, wish to be understood as limiting our invention to this particular timing or manner of interweaving the warps with the weft, or to the particular number of fibrous warps herein shown in the tubes, as we may use a greater or less number of fibrous warps in proportion to the rubber warps than those herein shown without departing from the essential feature of our in-

vention, which contemplates such an arrangement of the face and back warps that there will be at least one face or back warp between each of the rubber warps and the binders, and
5 such a number of warps in the empty tubes that there may be in weaving at least one face or back warp between each of the dents and binders. With such an arrangement of the warps it will be clear that the binders will be
10 somewhat removed from the rubber warps, and also from the dents of the reed, and the latter will thus have a tendency to press the warps in the empty tubes toward the rubber warps, so that there will be a strong frictional contact between the rubbers and fibrous warps,
15 and the warps in the empty tubes will be left free enough to render the fabric suitably soft and pliable.

20 In varying the number of fibrous warps we may employ three or five or any other desired number of back warps for each dent, instead of four, as shown in the drawing. With an

unequal number of face or back warps we prefer to arrange them in the reed in such a manner that there will be more face or back
25 warps in the empty tubes than there are in the tubes with rubber warps.

We claim—

An elastic fabric composed of face warps, back warps, binder-warps, rubber warps, and
30 a weft, the binder-warps being arranged to form alternate tubes with and without rubber warps, and the tubes containing the rubber warps, each having one or more face or back warps between the rubber warp and a binder,
35 substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

GEO. C. MOORE. [L. S.]
JOS. W. GREEN, JR. [L. S.]

Witnesses:

FRED W. GREEN,
ROLLIN C. WILSON.