

(No Model.)

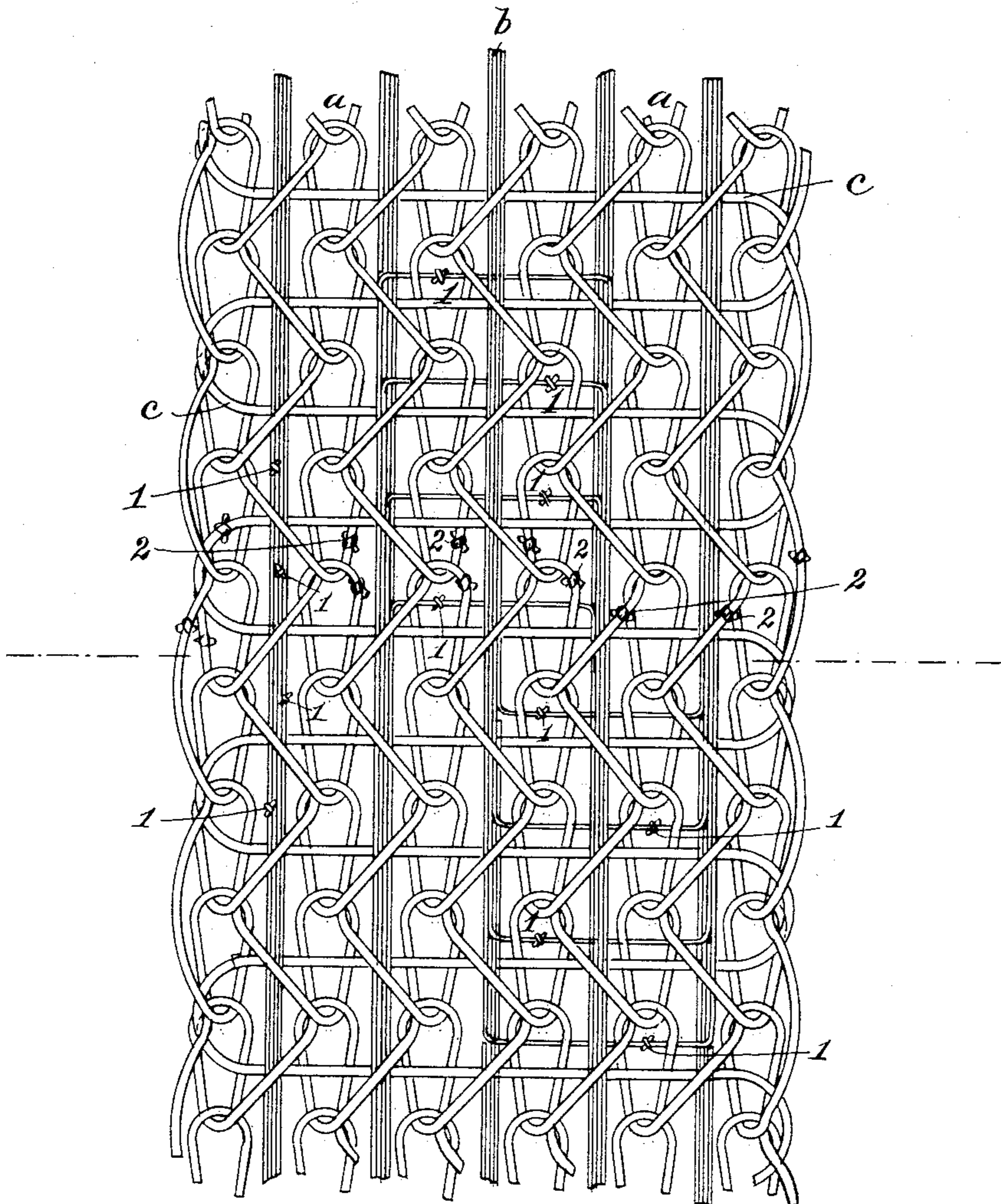
3 Sheets—Sheet 1.

B. L. STOWE.
METHOD OF JOINING KNIT BELTS.

No. 446,084.

Patented Feb. 10, 1891.

fig. 1.



Witnesses:
Henry L. Smith
Marvin A. Curtis

Inventor
Benjamin L. Stowe
Marcellus Bailey
his attorney

(No Model.)

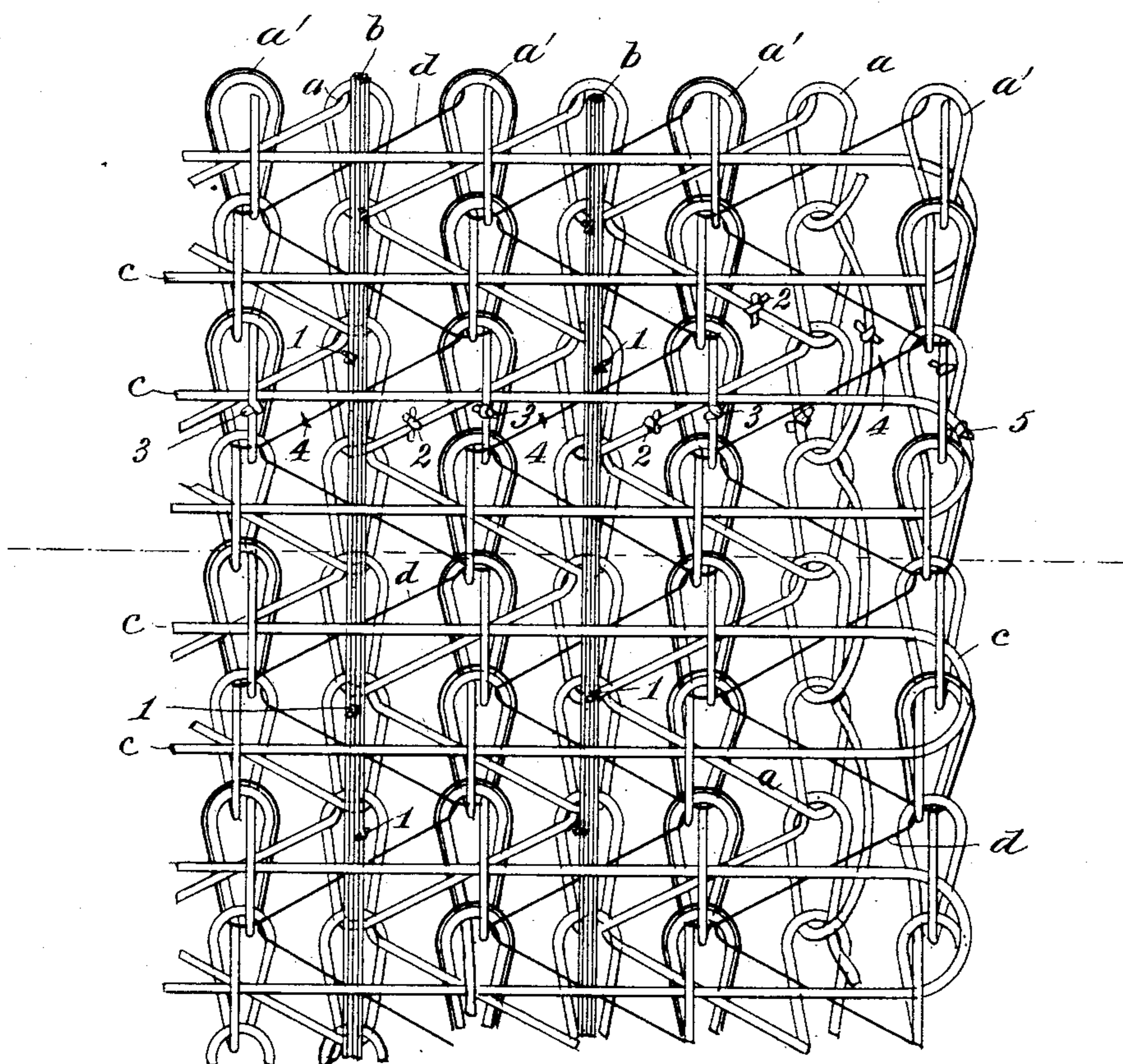
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Fig. 2.



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(No Model.)

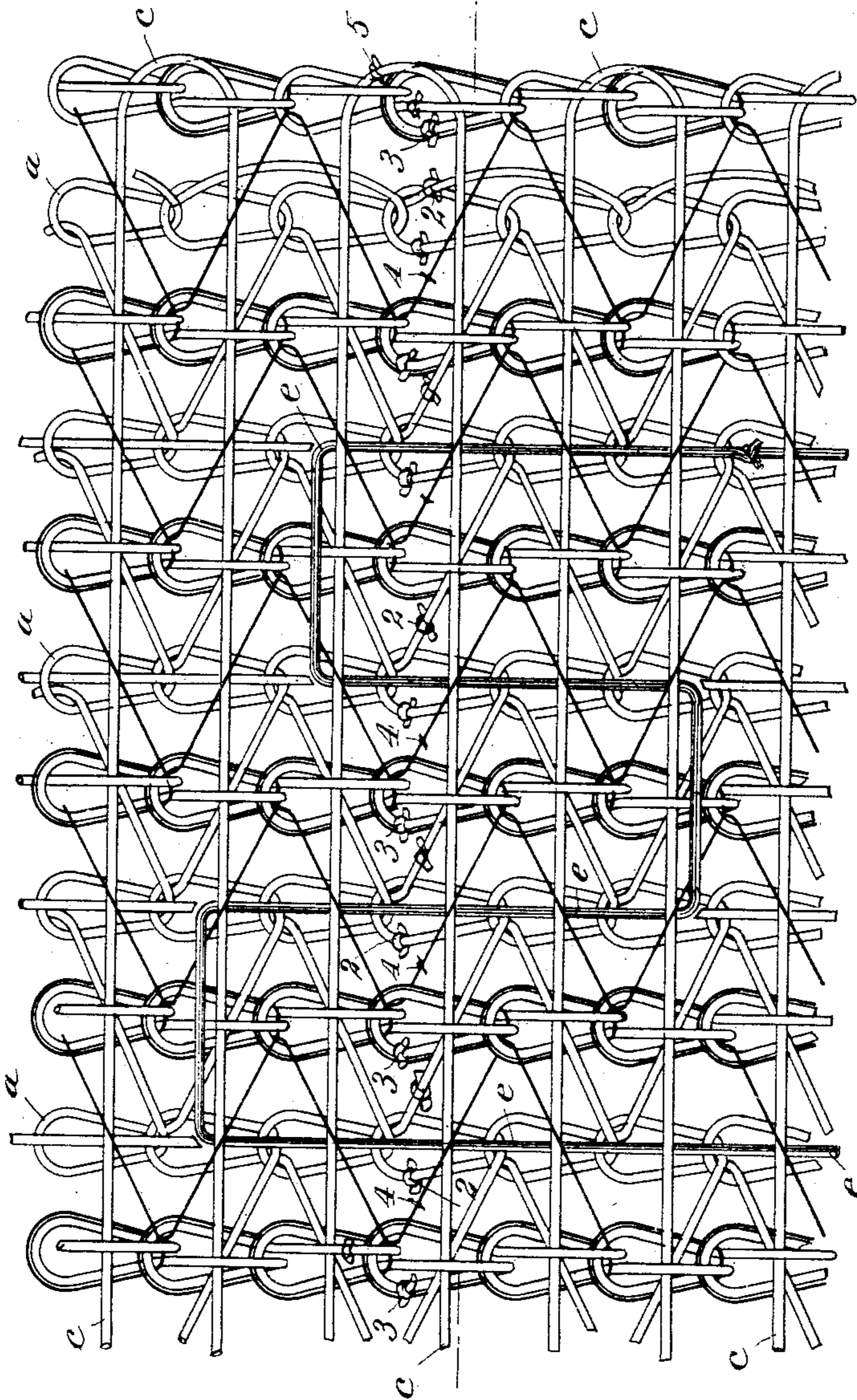
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Fig. 3.



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UNITED STATES PATENT OFFICE.

BENJAMIN L. STOWE, OF BROOKLYN, ASSIGNOR TO HIMSELF AND J. VAN D. REED, OF NEW YORK, N. Y.

METHOD OF JOINING KNIT BELTS.

SPECIFICATION forming part of Letters Patent No. 446,084, dated February 10, 1891.

Application filed April 6, 1886. Renewed May 24, 1890. Serial No. 352,997. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN L. STOWE, of Brooklyn, Kings county, State of New York, have invented a certain new and useful Method of Joining Knit Belts, of which the following is a specification.

The method which I have devised, and which will be presently described in detail, is designed to facilitate the joining, piecing, or repairing of knit-fabric belts.

The knit fabric of which the belting is composed is one that has incorporated in its structure straight longitudinal strands, which prevent the belt from stretching.

In carrying out my invention I unravel sufficient of the two pieces of fabric at the ends which are to be joined together to obtain ends of the several longitudinal strands long enough to be tied together. I then tie together the longitudinal strands of the two pieces of fabric to be united, after which I restore a sufficient number of the knitted stitches (which were in the first instance unraveled) to join the looped stitches of the two ends together, the meeting ends of the warp-threads being tied together and the weft-threads being then run into place and having their meeting ends tied together. The manner in which I proceed, however, can best be explained and understood by reference to the accompanying drawings, in which—

Figure 1 is a face view, on a greatly-enlarged scale, of the adjoining ends of two pieces of knit belting joined in accordance with my invention. Fig. 2 is a like view of two pieces of knit belting of a modified structure. Fig. 3 is a like view of still another modification.

In the actual web or fabric the strands are of course packed closely together. They are represented, however, in the drawings enlarged and widely separated, in order that the structure of the fabric may be more readily discerned.

The fabric shown in Fig. 1 is ordinary knit fabric of the desired width for the belt, having incorporated with it, however, longitudinal strands and a weft. The knit warp-threads are shown at *a*, the longitudinal strands at *b*, and the weft at *c*. The longitudinal strands usually consist of cords made up of a number of separate strands, and they are so repre-

sented in the drawings. The longitudinal strands in Fig. 1 are laid in the spaces between the rows of interlocked warp-loops and are held in the fabric between the weft and those portions of the warp which extend diagonally between the rows of loops.

In Fig. 2 the knit fabric contains the longitudinal strands *b* and weft *c*. It differs, however, from the fabric in Fig. 1 in the knitting of its warp-threads, the warp-threads *a* being worked by a set of vertical needles and those marked *a'* being worked by a set of horizontal needles. In this fabric are also seen warps *d*, which are small binding-warps fed to the horizontal needles by a guide which feeds a warp alternately to one and the other of two contiguous needles.

In Fig. 3 the fabric in structure is similar to that shown in Fig. 2, save that the longitudinal strands are omitted.

Having indicated in a general way the structure of the fabric, I come now to the features in which my improvement is comprised, which, as hereinbefore stated, has reference to the joining or piecing or repairing of knit-fabric belting.

In the several figures the joint at which the two pieces of belting are joined together is indicated by the broken or dotted cross-line.

In order to make the joint between the two pieces of belting in Fig. 1, the ends to be joined are unraveled far enough to procure sufficient length of longitudinal strands to permit the corresponding strands of the adjoining pieces to be tied firmly together, as illustrated in the left-hand longitudinal strand in Fig. 1, and also in the two longitudinal strands in Fig. 2. To avoid large knots, the longitudinal strands, which, as before said, usually consist of cords made up of several strands, may be divided and portions of the several strands tied together at different points, as indicated in Fig. 1 and also in Fig. 2 at the points marked 1 with reference to the longitudinal strands just above mentioned. After this the knitted stitches should be restored in sufficient number to join the loops of the two ends properly together, the meeting ends of corresponding threads of the two ends being tied together, as indicated at 2 in Fig. 1 and at 2, 3, and 4 in Fig. 2, and

finally the weft-threads should be run into their place in the fabric and their ends tied, as seen at 5.

5 In lieu of the foregoing, the joining of the parts, so far as the longitudinal strands are concerned, can be effected by making transverse connections between one strand and the second strand from it, as indicated with reference to the four right-hand longitudinal
10 strands in Fig. 1, the numeral 1 here also being used to designate the joint between the two ends; or, as seen in Fig. 3, the two pieces of belting may be united by means of a cord e, which to a certain extent, if not entirely, supersedes for this purpose the longitudinal
15 strands, said cord running back and forth from one piece of the belt to the other, as indicated in the drawings, thereby joining the two together. After this is done the knitted
20 stitches and the weft are replaced or restored and the meeting ends of corresponding threads in the two pieces are tied, as before described.

In Fig. 3 the numerals 2 3 4 5 refer to parts similar to those identified by like numerals in Fig. 2.

25 Having now described my improvement and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

The method of joining two ends or pieces
30 of knitted fabric, consisting in unraveling the two ends, joining them together by longitudinal strands or their specified equivalent, and then restoring the knitting sufficiently to join together the stitches of the two ends and
35 tying together the meeting ends of corresponding threads, substantially as hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 5th day of April, 1886.

BENJAMIN L. STOWE.

Witnesses:

FREDERICK A. STOWE,
NATHAN STOWE.