

(No Model.)

2 Sheets—Sheet 1.

F. WILCOMB

KNIT FABRIC AND METHOD OF MAKING THE SAME.

No. 463,561.

Patented Nov. 17, 1891.

Fig. 1.

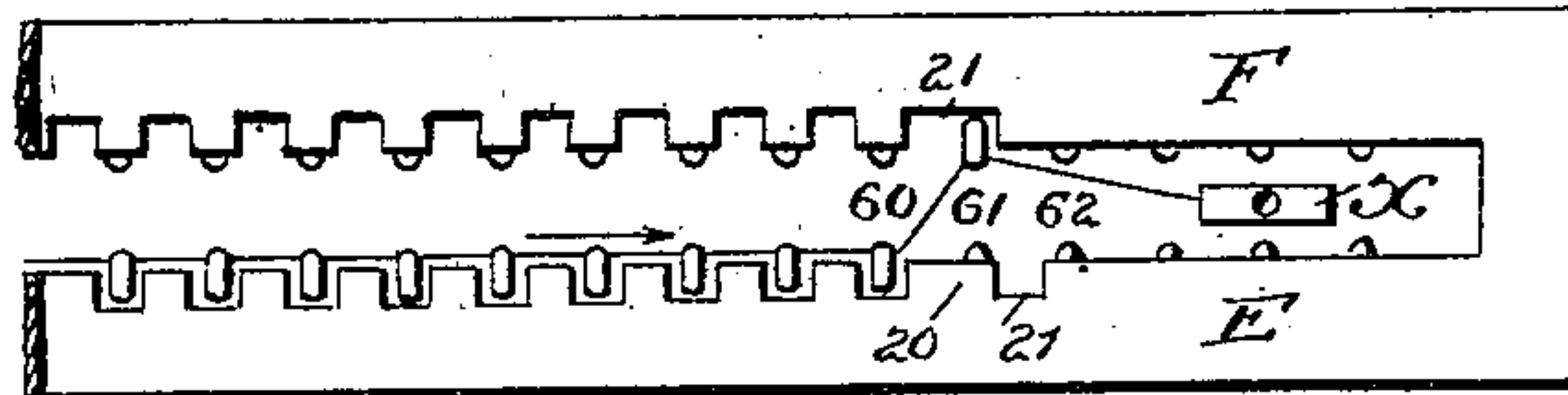


Fig. 2.

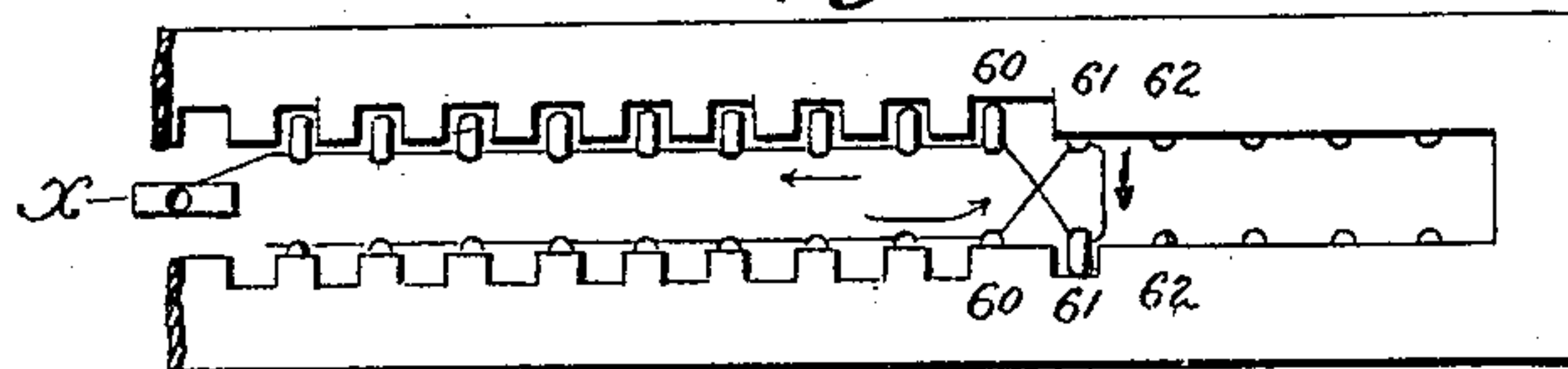


Fig. 3.

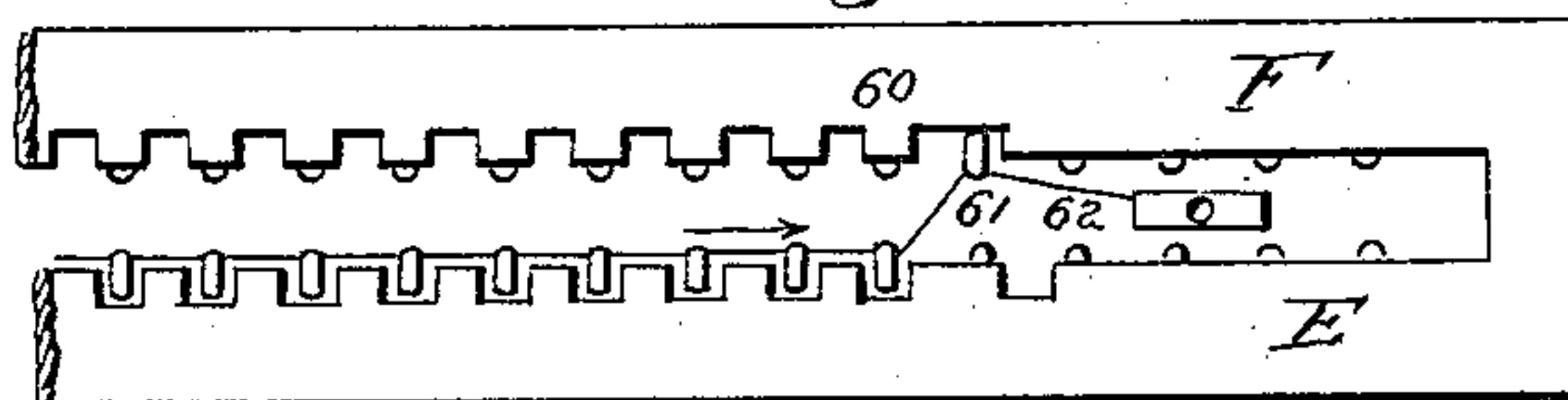


Fig. 4.

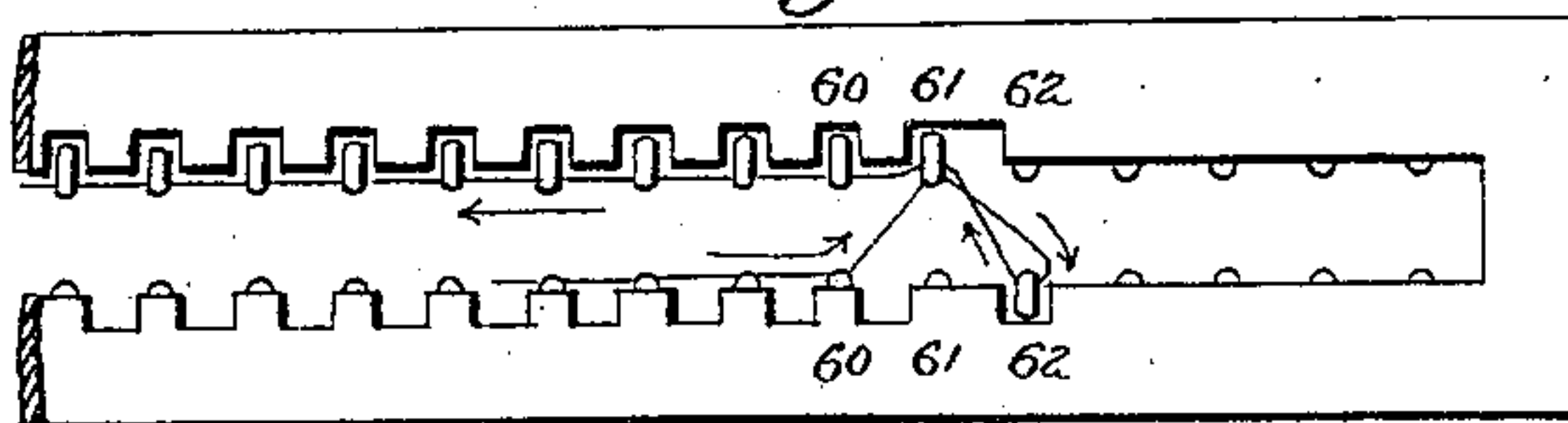


Fig. 5.

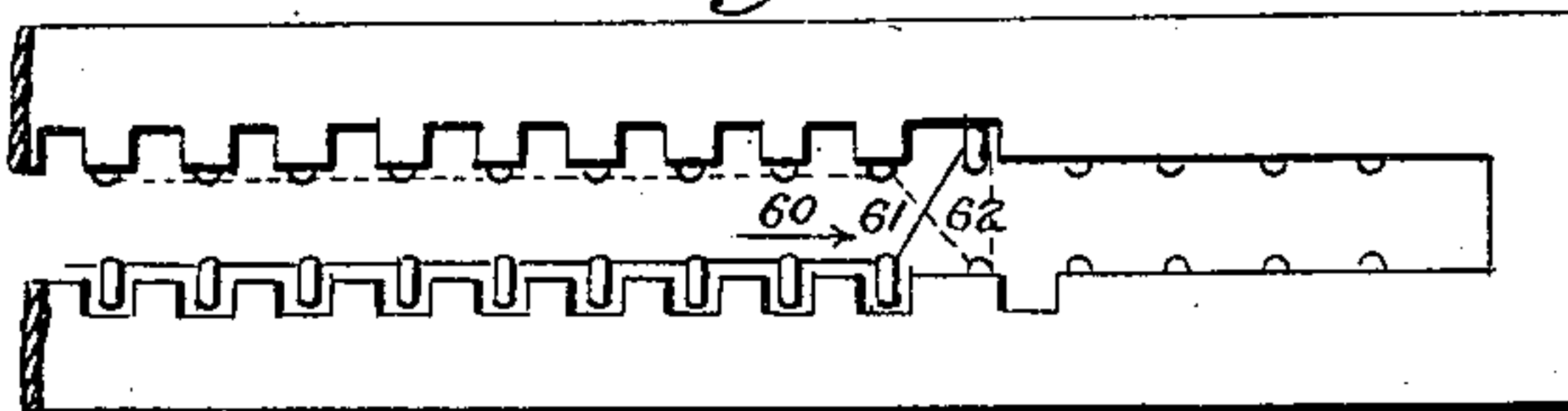
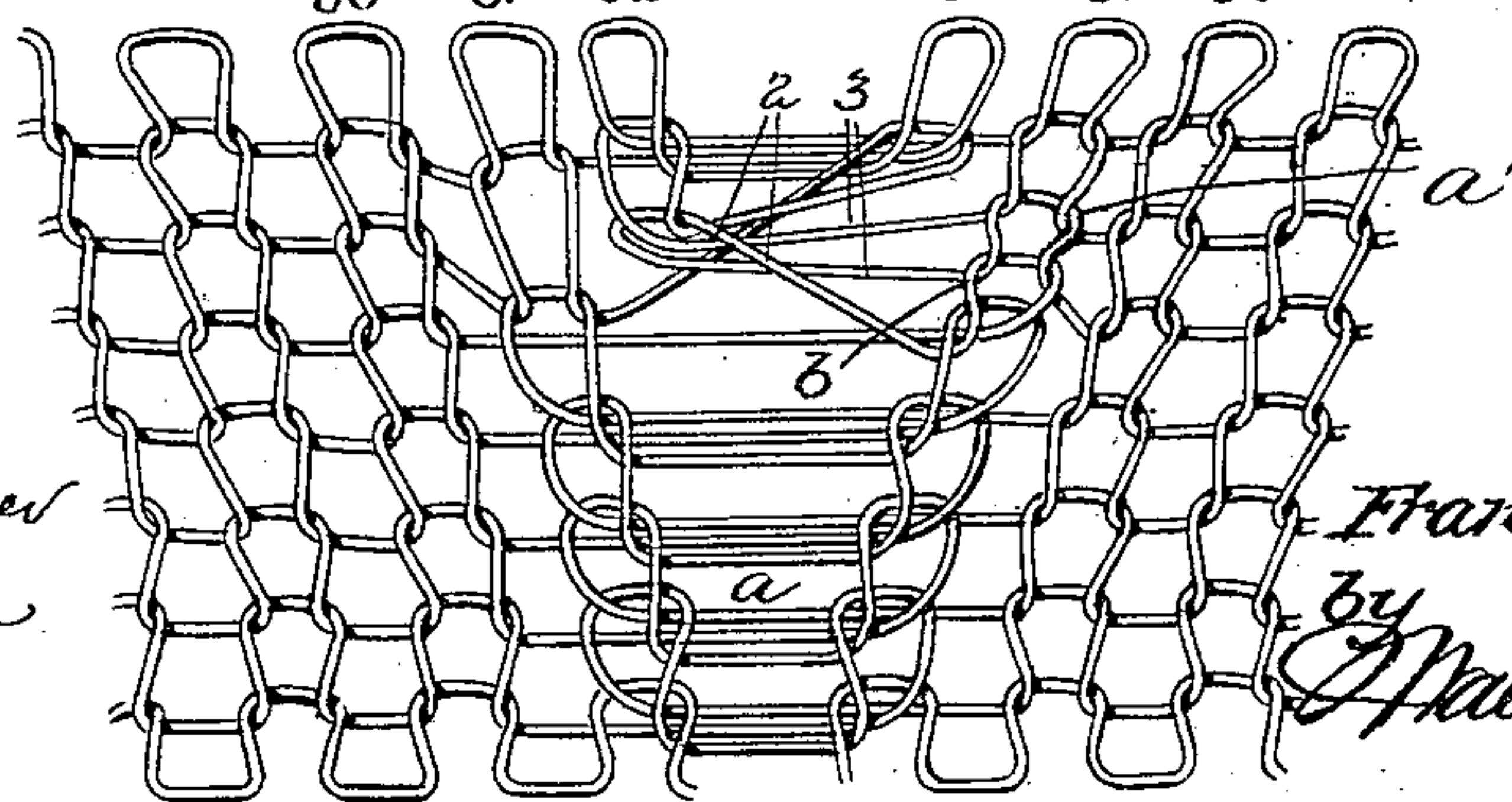


Fig. 6. Front row Back row



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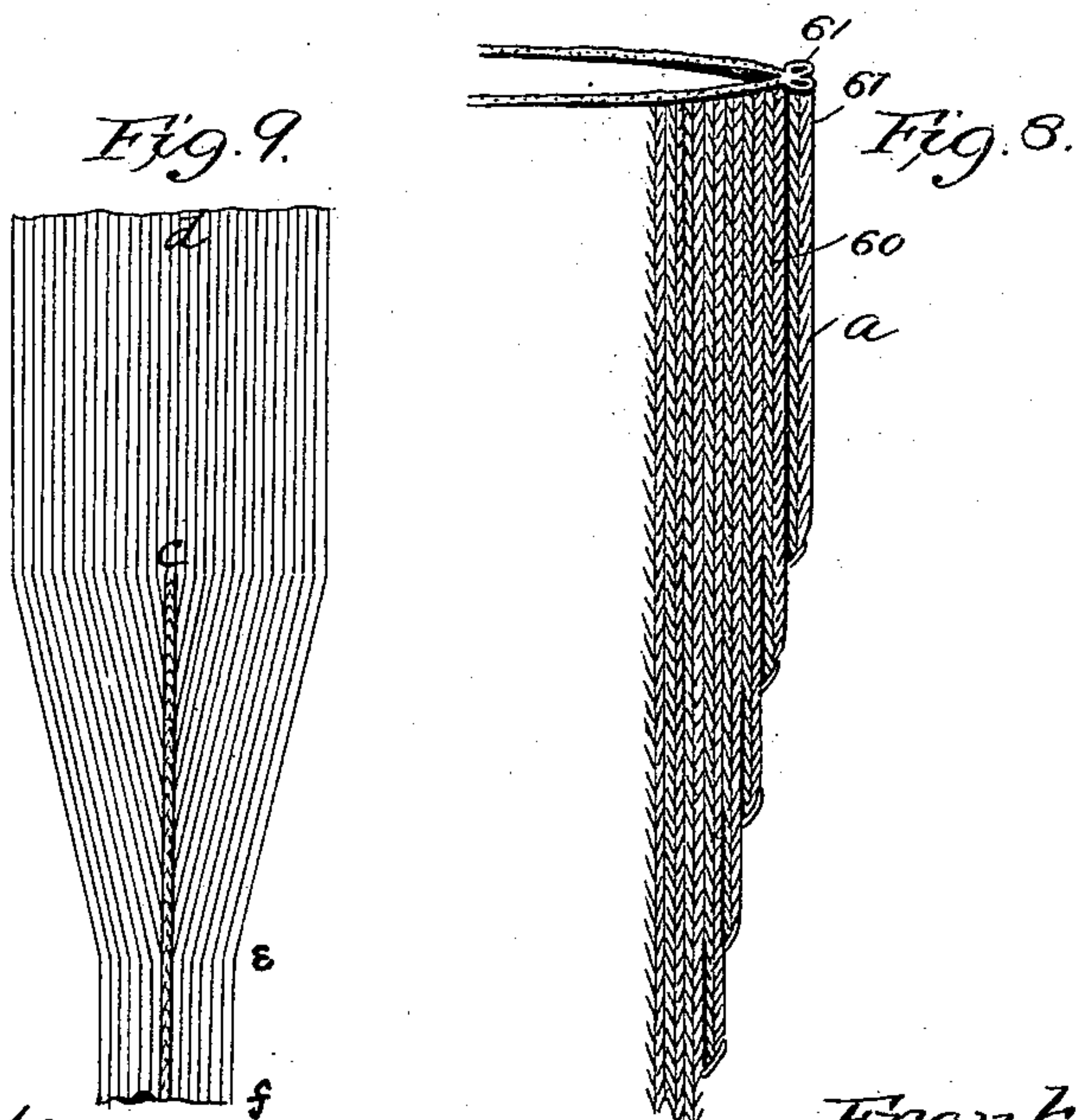
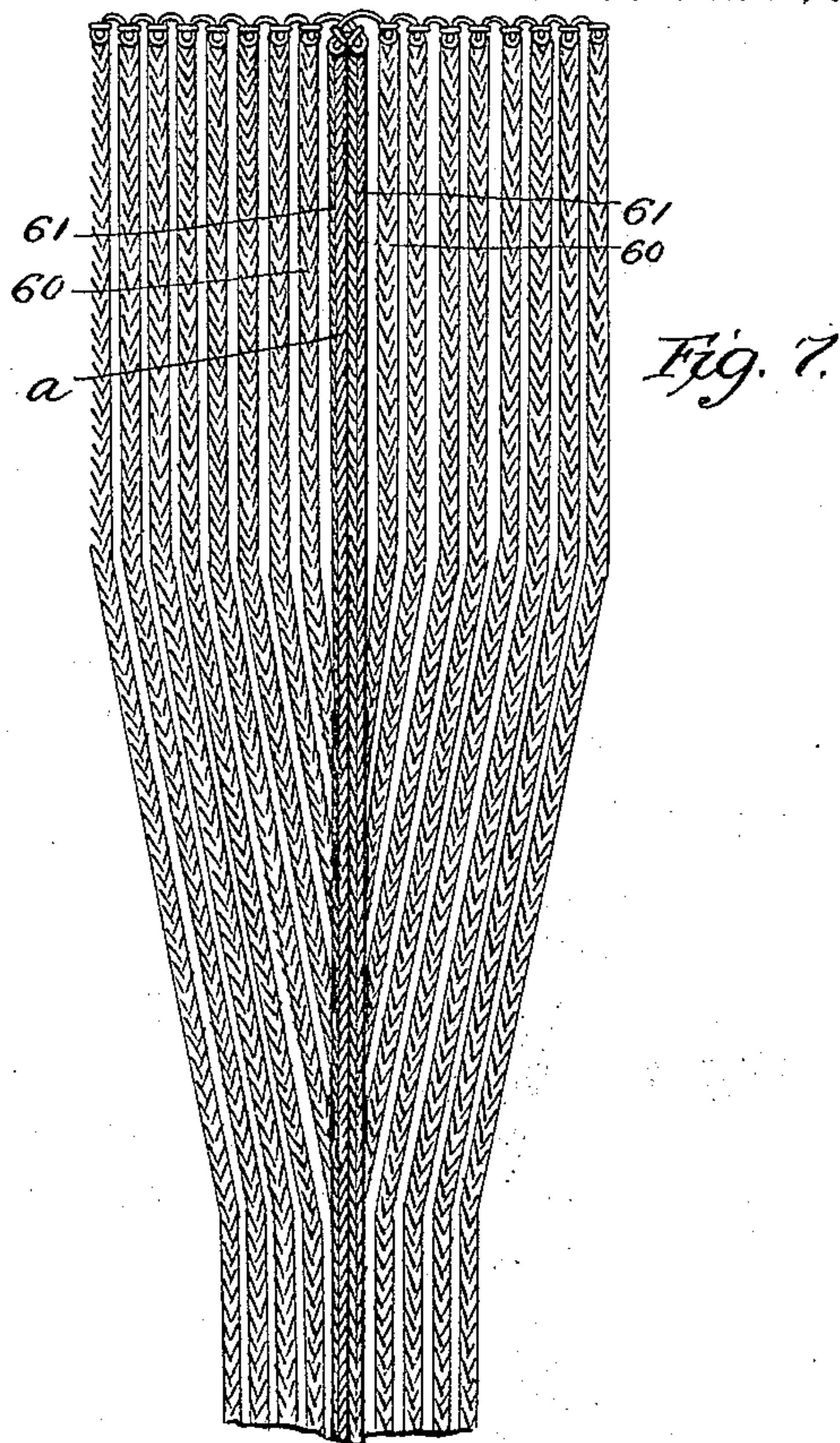
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

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KNIT FABRIC AND METHOD OF MAKING THE SAME.

SPECIFICATION forming part of Letters Patent No. 463,561, dated November 17, 1891.

Application filed June 13, 1891. Serial No. 396,171. (No model.)

To all whom it may concern:

Be it known that I, FRANK WILCOMB, a citizen of the United States of America, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Knit Fabric and Method of Making the Same, of which the following is a specification.

My invention relates to a tubular knitted fabric and the mode of producing the same.

The primary object of the invention is to provide a tubular fabric shaped by additional wales introduced at intervals without leaving holes in the fabric at the points where the new needles are brought into action.

A further object of my invention is to produce a tubular fabric having a mock seam knitted with the same thread as the body of the fabric, said seam extending along the plain portions where desired and also through the widened part. The method is carried out upon a straight machine having opposite rows of needles, to which the thread is fed successively in courses or rounds in the well-known way.

In the accompanying drawings, Figures 1, 2, and 3 are diagrammatic views showing the operation of the needles in knitting plain, and Figs. 4 and 5 are similar views illustrating the widening operation. Fig. 6 is an exaggerated view of the outside of the fabric, illustrating plain knitting and the widening. Fig. 7 is a view of a portion of the back of the fabric, showing the mock seam. Fig. 8 is a side elevation. Fig. 9 is a modification of the fabric.

I have shown in Figs. 1 to 5 slides E F, having a series of notches and teeth, the notches in one slide being opposite the teeth of the other slide. The slide E has a wide tooth 20 and an additional small notch 21, while the slide F simply has a wide notch 21. In whatever position the slides may be they determine which needles are active and which are held inactive, the notches aligning with the active needles and all the others being held by the teeth. The slides are shifted back and forth, as fully described in an application filed herewith June 13, 1891, Serial No. 396,170, and render first one set of needles active and then the other. These slides form no part of

this invention, but are merely shown for convenience in illustrating the method, which may be carried out by other means.

Supposing sixty-one needles are being used to form the plain part of the tube, the thread will be taken up by the active needles of the front row up to needle 60 as the thread-carrier X moves to the right, Figs. 1 and 6. The end needle 61 of the front row is now inactive, while the opposite back needle 61, being in the wide notch, operates and takes the thread, which is thus crossed to the back row. On the return of the carrier to the left to feed the back needles, Fig. 2, the needle 61 of the back row is out of action, while the corresponding needle 61 of the front row moves freely forward and takes the thread, causing it to recross from the back to the front needle 61, from which it is laid to the back needle 60 and then along the back row. The thread is thus crossed and recrossed at the end of the needle-rows, and this has the effect of producing a mock seam *a*, Figs. 6 and 7, which stands out from the body of the fabric and is composed of two wales 61 61, which are in the nature of and appear as extra wales thrown in between the regular end wales 60, each wale 61 being bound to the regular wale 60 of the opposite side.

In widening the fabric a new needle 62 is brought into action in the front row, and the thread having crossed from wale 60 of the front row to wale 61 of the back row, as in plain knitting, is looped about new needle 62 (needle 61 of the front row being inactive) to form the first loop in the new wale 62, and then the thread recrosses to the regular needle 61 of the back row and is looped in the wale formed thereby, as at *a'*, Fig. 6, and is bound by the loop *b*, (an independent loop intermediate of the regular courses,) which was first formed on the needle 61, and cast off independently and intermediate of the regular courses, as shown in Fig. 6. The thread is then caught by the other needles of the back row, as shown by the arrow, Fig. 4. On the next course, Fig. 5, the thread crosses from the end needle 61 of the front row, which is now active, to new back needle 62, thence to front needle 62, and from there recrossing to the regular needle 61 of the back row and

along said row. Two new wales are thus started in the fabric, one on the front row and one on the back, and any number of plain courses may now be knitted, as before described, Figs. 1 and 2, forming a mock seam in the widened portion as well as in the plain part. From this it will be seen that the thread is so disposed and crossed and recrossed where the new needles are brought into action as to effectually close the apertures which would otherwise be left by casting off the first loops of the new wales. This special disposition and crossing of the thread is shown at the points 2 3, Fig. 6.

The fabric may be shaped at both ends of the needle-rows.

The fabric, when shaped to its full width, may be knitted without crossing the thread, thus presenting a plain surface from *c* to *d* without a mock seam, as in Fig. 9. In this way a fabric may be produced in which the full width *c d* will be plain, while the other portions—viz., the shaped part *c e* and the reduced portion *e f*—will have the mock seam.

I claim as my invention—

1. A tubular knitted fabric having a mock seam standing out from the face thereof.

2. A tubular fabric having a mock seam standing out from the face of the fabric knitted with the same thread as the body portion.

3. A tubular knitted fabric having a mock seam formed by two additional wales between the end wales, the thread extending across from each end wale to the additional wale on the opposite side and between the additional wales, substantially as described.

4. A seamless shaped tubular fabric having a mock seam extending throughout the shaped and straight portions, substantially as described.

5. A tubular fabric having a straight portion the full width of the fabric, a shaped portion, and a straight portion of reduced diameter, said reduced and shaped portions having a knitted mock seam, and the full width being knitted plain, substantially as described.

6. A tubular fabric widened by additional wales and having at one point of the widening an independent loop intermediate of the regular courses, with the thread extending between the same and the opposite widening wale and thence across to the regular course, substantially as described.

7. The tubular fabric described herein, widened by introducing new wales in the front

and back rows of knitting and having an independent loop formed in the regular wale of the back course and intermediate of the regular courses, the thread extending from said intermediate loop across the opening to the new front wale and thence to the regular course, and the new back wale having the thread crossed from the regular wale at the front, then to the new stitch previously formed, and recrossed to the regular course at the back of the fabric, substantially as described.

8. The herein-described method of forming a mock seam in a straight portion of a knitted fabric, consisting in knitting along one row, crossing to the opposite row, and then recrossing to the front and then to the back and knitting along said back row and repeating the operation in each course, substantially as described.

9. The herein-described method of forming a mock seam in a knitted fabric, consisting in knitting along the front row, omitting the end needle of said row, and crossing to the end needle of the back row, then recrossing to the end needle of the front row, and then to the back row, omitting the end needle thereof, and knitting along said back row to complete the course.

10. The herein-described method of widening, consisting in knitting along one row, bringing in a fresh needle in this row to form a new loop after having first formed an independent loop in the regular wale of the opposite row, and then recrossing to said opposite row and continuing along the same to form the regular course, the said independent loop being intermediate of the courses, substantially as described.

11. The herein-described method of widening, consisting in knitting along one row and introducing a fresh needle in this row after having first formed an independent loop in the regular wale of the opposite row and then recrossing to said opposite row and continuing the course around to the end of the first row, then crossing to a fresh needle in the opposite or back row, and then recrossing to the needle in the front row which has been newly introduced, and then recrossing to the back row and continuing along this to form the next course.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK WILCOMB.

Witnesses:

LOREN G. LADD,
DAVID J. WHITE.