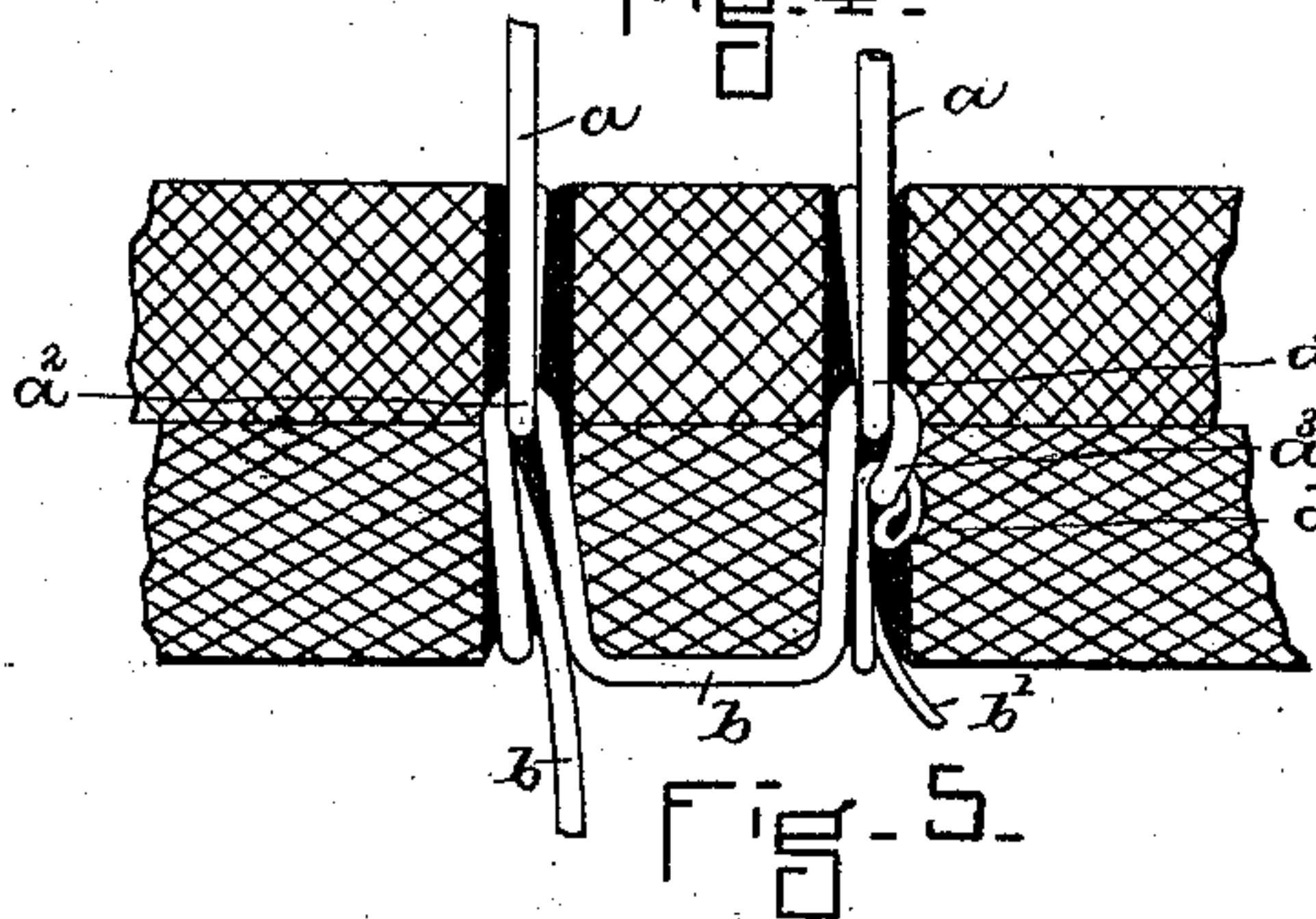
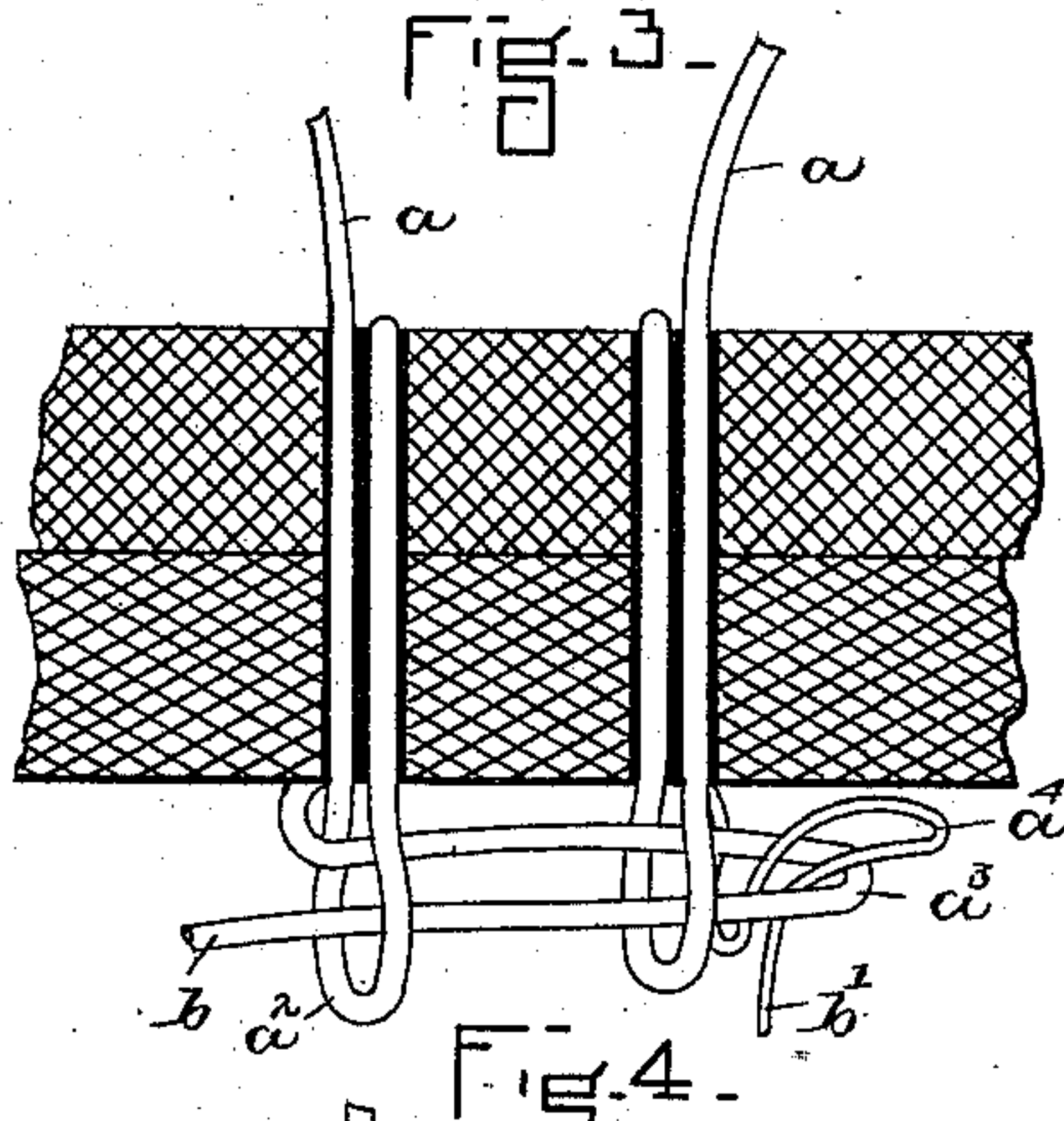
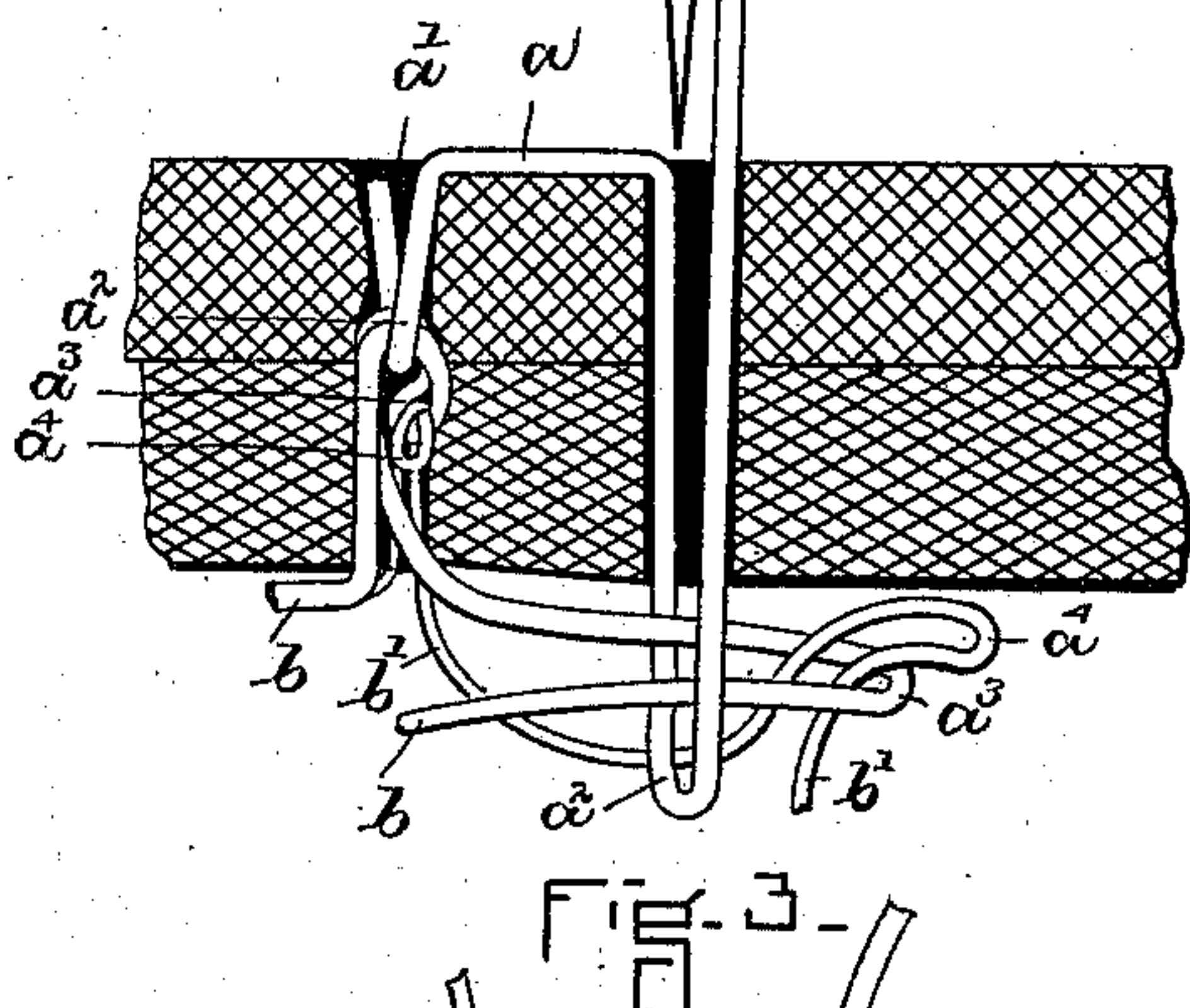
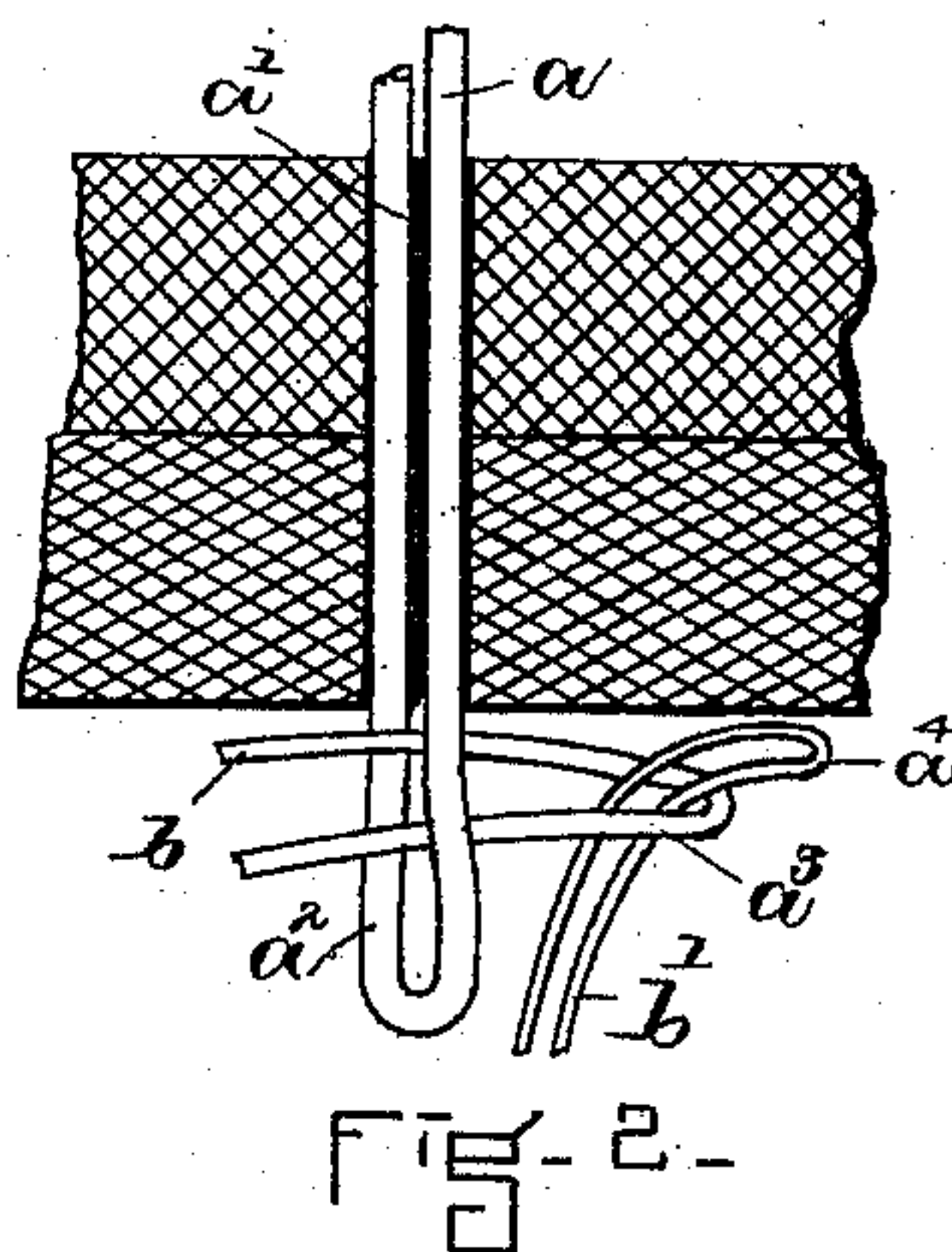
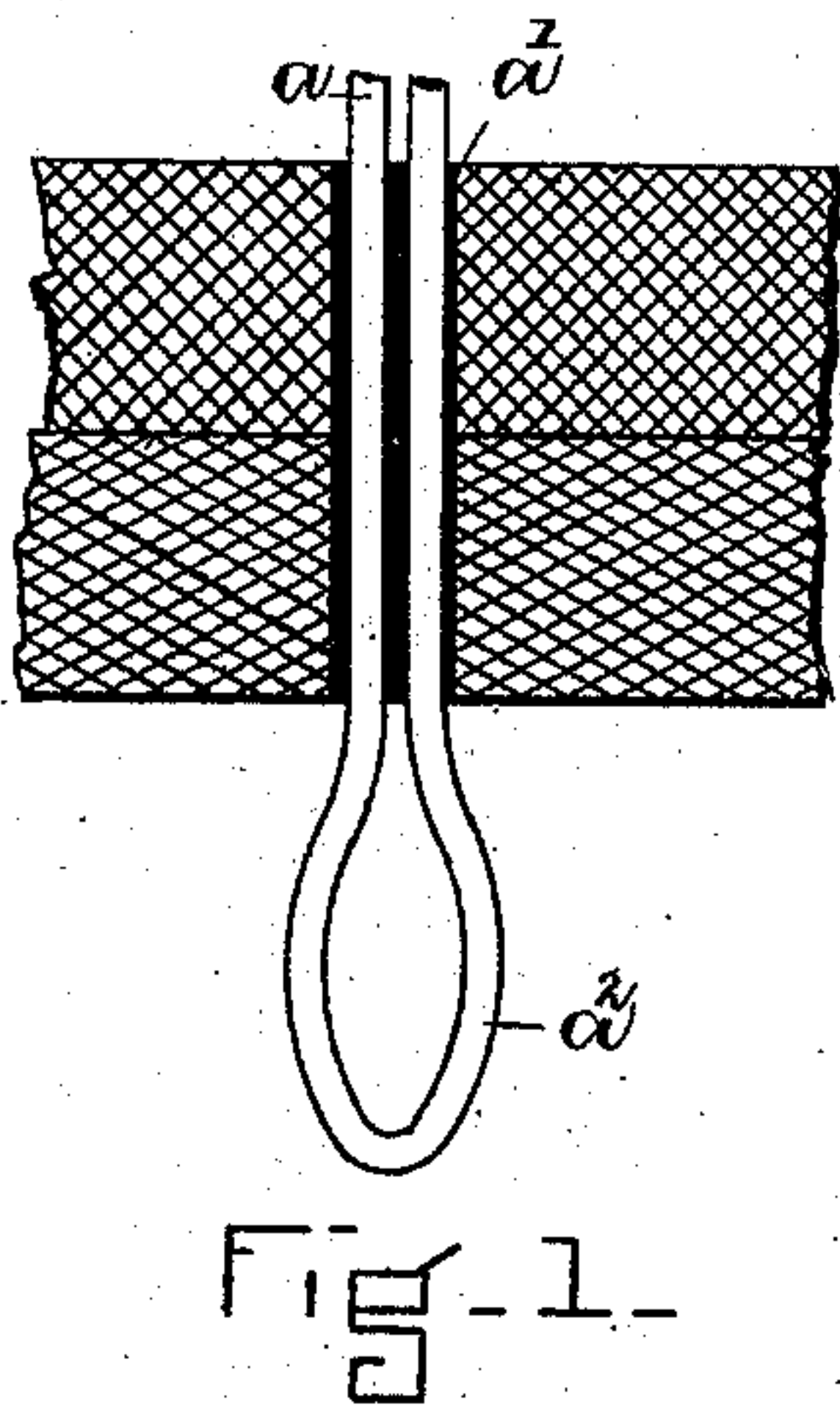


(No Model.)

A. A. CUMING.  
METHOD OF FORMING STITCHES.

No. 413,647.

Patented Oct. 29, 1889.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

ALFRED A. CUMING, OF HINGHAM, MASSACHUSETTS.

## METHOD OF FORMING STITCHES.

SPECIFICATION forming part of Letters Patent No. 413,647, dated October 29, 1889.

Application filed January 21, 1889. Serial No. 297,046. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED A. CUMING, of Hingham, in the county of Plymouth and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Methods of Forming Stitches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention relates to the method of making or forming stitches. In the formation of the stitch the bight or loop of one thread is passed through a hole in the material or the sections which are to be united by the stitch and the loop enlarged or expanded upon the other or opposite side of the material, and through this loop is carried by a suitable carrier another or under thread in the form of a loop, and at the same time or immediately following another or third thread, preferably smaller than the other two, is by a suitable carrier introduced through the loop of the second thread. The two under threads thus looped together are then drawn into the hole in the material or fabric and the loops are turned on themselves, and the loop of the third thread serves to fasten or lock the stitch formed by the first and second threads.

In the drawings, Figure 1 is a view representing the upper stitch carried through a hole in the material and a loop formed thereon. Fig. 2 represents the loop of one of the under threads passed through the loop of the upper thread. Fig. 3 represents the loop of the third thread passed through the loop of the under thread and one complete stitch, and Figs. 4 and 5 represent the invention applied to a stitch using two upper threads in forming two seams.

$a$  represents the single or upper thread. It is fed downward through a hole  $a'$ , formed in the material in which the stitch is sewed or the sections of which are to be united, and a loop  $a^2$  formed, through which the loop  $a^3$  of an under thread  $b$  is carried. The loop  $a^4$  of another under thread  $b'$ , preferably smaller than the first and second threads, is then introduced through the loop  $a^3$  of the thread  $b$ .

The lower thread  $b$  is then drawn upon the loop  $a^4$ , the upper thread drawn back with the loops  $a^3$   $a^4$  into the hole  $a'$ , and the said loops will completely fill the center of the hole and bind closely therein.

It will be seen that the threads  $a$  and  $b$  are the principal or holding threads, and that the thread  $b'$  is an auxiliary or locking thread, which is passed through the loop of the thread  $b$  and acts as a cross-bar or locking device in preventing the said loop from becoming disengaged from the loop of the thread  $a$ , and if at any time it is desired to separate the stitches the locking-thread  $b'$  may be withdrawn and the loop  $a^2$  separated from the loop  $a^3$ .

In Fig. 5 I have represented the invention as applied to a double line of stitches, there being two upper threads  $a$ , a single lower thread  $b$ , which passes through each loop of the two upper threads, and a single locking-thread  $b'$ , the loop of which passes or enters the loop of the single under thread  $b$ . While I have spoken of the threads as "upper" and "under," I would not be understood as confining myself to this location, as the threads which I have called "under" may be upon the upper side, and the other, which I have termed the "upper," may be upon the under side of the fabric.

I do not confine myself to the form or arrangement of devices used for making the described stitch or practicing the process.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

The method of forming a stitch which comprises passing a thread through a hole in the material or pieces to be united, forming a loop upon the opposite side of said material; second, in passing into and through said loop a loop of another thread; third, in passing through the second loop a loop of still another or locking thread, and, fourth, drawing the loops of said threads into the hole of the material or fabric, substantially as described.

ALFRED A. CUMING.

Witnesses:

J. M. DOLAN,  
F. F. RAYMOND, 2d.