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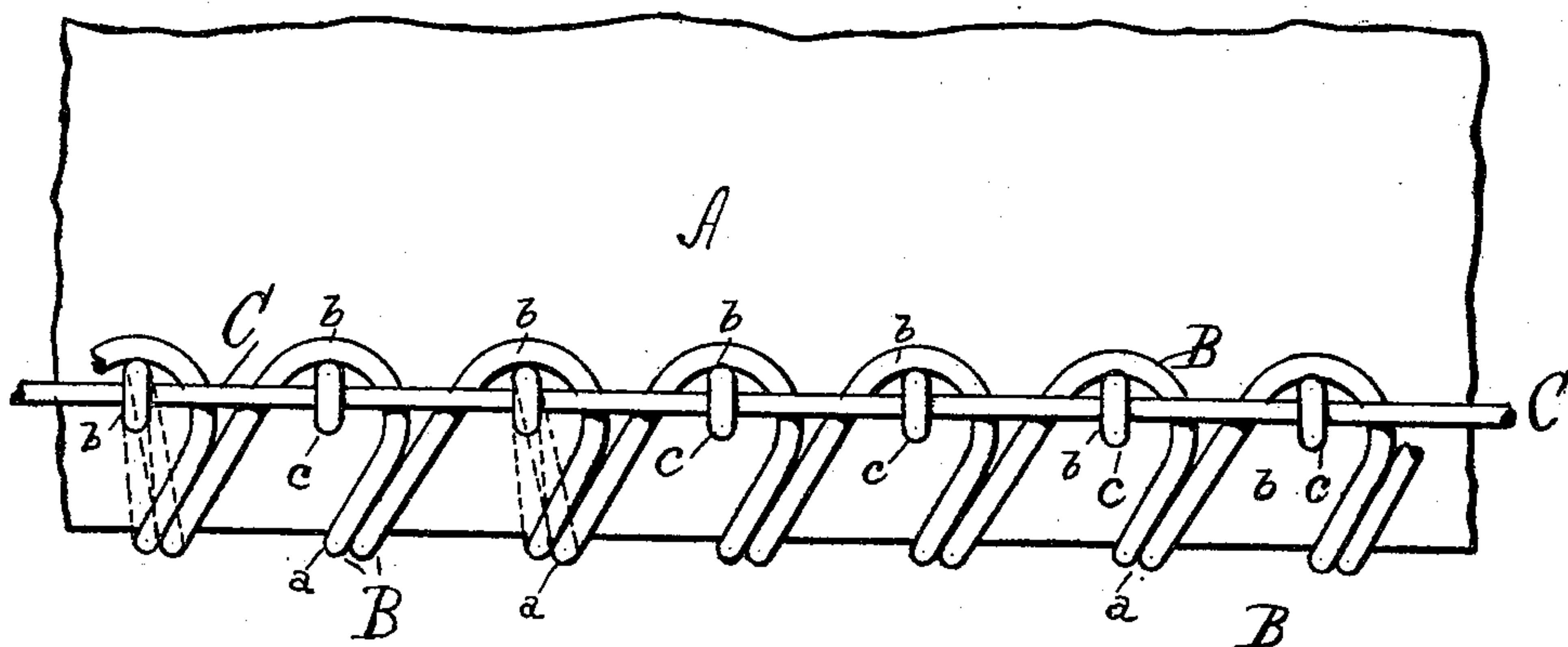
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H. H. FEFEL.

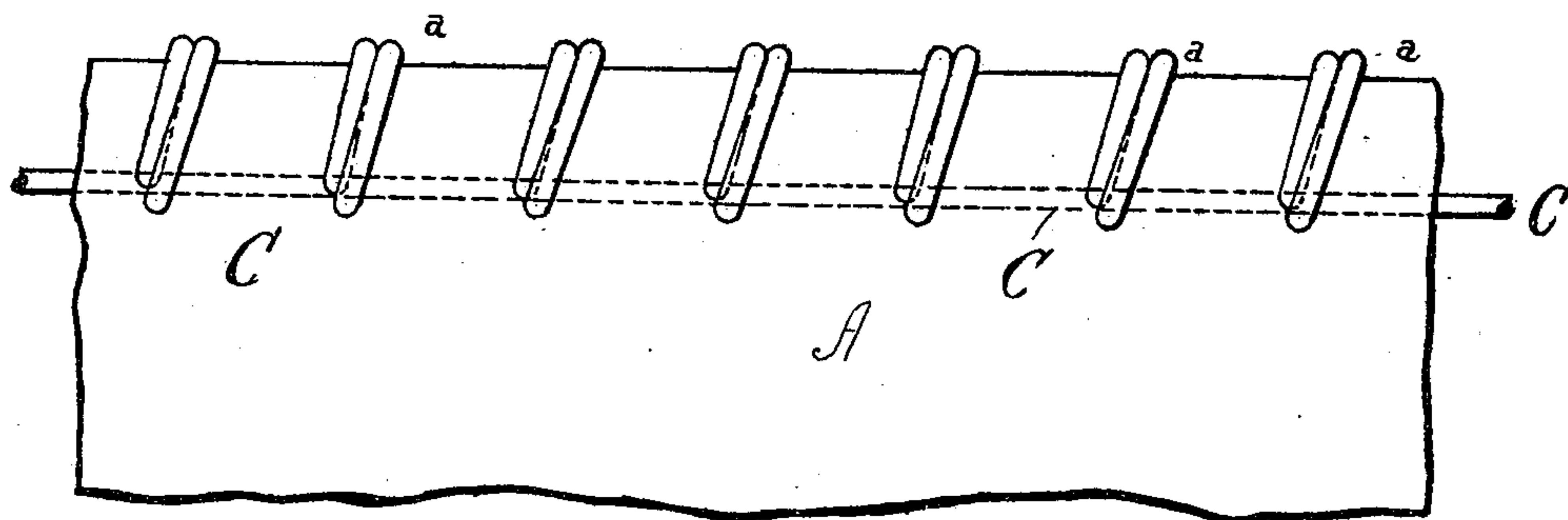
COMBINED FABRIC AND THREADS IN OVERSEAM WORK.

No. 459,720.

Patented Sept. 15, 1891.



*Fig. 1.*



*Fig. 2.*

*Witnesses:*  
*Geo. Benjamin*  
*B. Clarke*

*Inventor:*  
*Henry H. Fefel*  
*by W. P. Preble for*  
*his attorney*

(Model.)

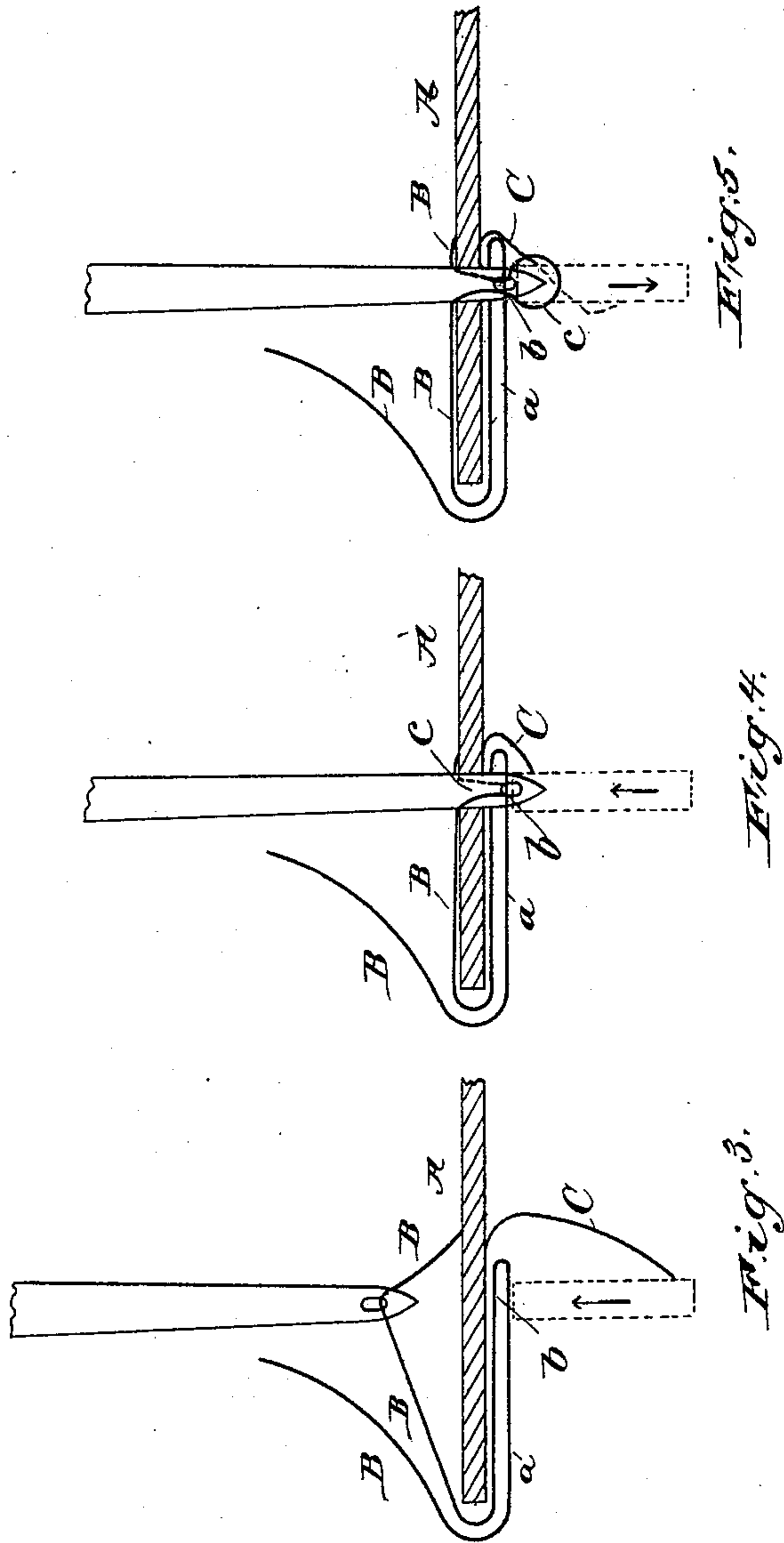
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Attest:  
W. M. Benjamin  
of S. Hall

Inventor:  
Henry H. Fefel  
by W. P. Pugh Jr.  
his attorney



# UNITED STATES PATENT OFFICE.

HENRY H. FEFEL, OF NEW YORK, N. Y., ASSIGNOR TO THOMAS W. BRACHER,  
OF SAME PLACE.

## COMBINED FABRIC AND THREADS IN OVERSEAM WORK.

SPECIFICATION forming part of Letters Patent No. 459,720, dated September 15, 1891.

Application filed December 31, 1890. Serial No. 376,328. (Specimens.)

*To all whom it may concern:*

Be it known that I, HENRY H. FEFEL, a citizen of the United States, and a resident of the city, county, and State of New York, have  
5 invented certain new and useful Improvements in Overseams, of which the following is a specification.

The object of my invention is to provide a new combination of cloth and threads in over-  
10 seam work composed of two threads which shall form more perfect work than has been the case with stitches heretofore employed for this purpose.

One of the threads which constitute my  
15 improved combination is made to form two loops, one loop passing over the edge of the cloth or other material to be stitched and the other loop descending through the material and through the first loop, and the other  
20 thread is thrown through the second loop across the bight of the first loop, and thus locks the two loops together.

My invention consists in a combination of cloth or other suitable material with the two  
25 threads thus looped and locked together.

In the accompanying drawings, Figure 1 shows the under side of a seam made of my improved combination. Fig. 2 is a top view thereof. Fig. 3 shows the position of the  
30 threads at the time when the first-made loop has been carried round under the cloth beyond the line of the needle, the needle being shown above for convenience. Fig. 4 shows the first-made loop in the same position, the  
35 needle having descended through the article and through the loop, and the point of the shuttle being just about to open out the thread from the needle below the first-made loop, so that the shuttle may pass between the needle  
40 and the thread thus opened out in the second-made loop. Fig. 5 shows the position of the threads after the shuttle has carried its thread through the second-made loop and the different threads are about to be drawn together by the take-up mechanism. When  
45 the threads are drawn taut by the take-up mechanism, they appear on the under side of the article as shown in Fig. 1 and on the upper side as shown in Fig. 2.

50 Same letters indicate similar parts in the different drawings.

A represents a portion of the article on which the overseam is to be made.

B represents the loop-thread.

C represents the locking-thread. 55

This combination may be made by hand or machinery. If made by machinery, what I have called the "loop-thread" is carried by the needle, and what I have called the "locking-thread" is carried by the shuttle. 60

It will be noticed that the loop-thread forms two distinct loops, one of which *a* is carried over the edge of the article to be stitched to such a distance on the under side of the article that the bight of the loop surrounds the  
65 point *b* through which the second loop *c* is to be stitched. The second loop *c*, thus descending through the article to be stitched, necessarily passes through the bight of the first loop. The locking-thread C is then passed  
70 through the bight of the second loop, and when the threads are drawn taut they produce a perfect lock-stitch, the locking-thread being firmly grasped by the bight of the second loop, as shown in Fig. 2, the first loop being held in position by the second loop and the locking-thread. A neat appearance on the upper side of the seam is produced, as the two threads which pass over the edge lie close together and run in substantially parallel lines, so that they present very much the appearance of a single thread. 80

The uses and advantages of my improved combination are sufficiently obvious without further description. 85

The mode of making my improved combination, if not already clear, and the successive steps made and taken by the two threads and the thread-carrying devices will be readily understood from the following description. After the needle and shuttle are threaded, the needle being above the table and the shuttle below, as shown in Fig. 3, the edge of the cloth or other material is started in under the needle and above the table. The machine is then started, and the association of the cloth or other material with the two threads forming the stitch is brought about as follows: The needle and the shuttle, moving in unison, begin to carry their respective  
90 threads toward the point of junction underneath the cloth or other material, this junc- 95 100



tion taking place when the point of the needle has descended through the cloth and met the point of the revolving shuttle. Before this takes place, however, the looper, then  
5 above the cloth, has caught the slack thread from the needle and without interfering with the descending movement of the needle has carried the said slack thread over the edge of the cloth and back in under the same. Presenting this slack thread in the form of an  
10 opened loop just above the point of junction, so that when the needle descends with its thread, which it does almost immediately after this opened loop is in position, the needle  
15 has to descend through the loop in order to present its thread to the shuttle at the point of junction. There may be technically a succession of steps, the first of which would be regarded as the forming of a loop by the  
20 looper from the slack of the needle-thread and bringing it over the edge of the cloth to the under side thereof, the second step being the carrying of the needle-thread down through the cloth and through said loop on  
25 its under side by means of the needle, the third step being the opening of this needle-loop by the point of the shuttle and the throwing of the shuttle-thread through said loop. The fourth step would be the with-

drawal of the shuttle and the needle from the 30 loop through which they had respectively passed, thus leaving all the threads slack, and the last step would be the tightening of these several threads into close association with the cloth by means of the take-up mechanism. When thus tightened, the cloth and the several threads form the association or combination previously spoken of as constituting my improved combination.

I claim—

The combination, with a piece of cloth or other suitable material, of a straight thread lying along one side of said material at some distance from the edge of said material and parallel with said edge, and another thread 45 which lies in the form of loops around said straight thread through said material over its said edge and around the loop which surrounds the said straight thread between said material and said straight thread, all arranged substantially as shown, and for the purpose specified. 50

New York, December 27, 1890.

HENRY H. FEFEL.

Witnesses:

HIRAM A. BENEDICT,  
W. P. PREBLE, Jr.