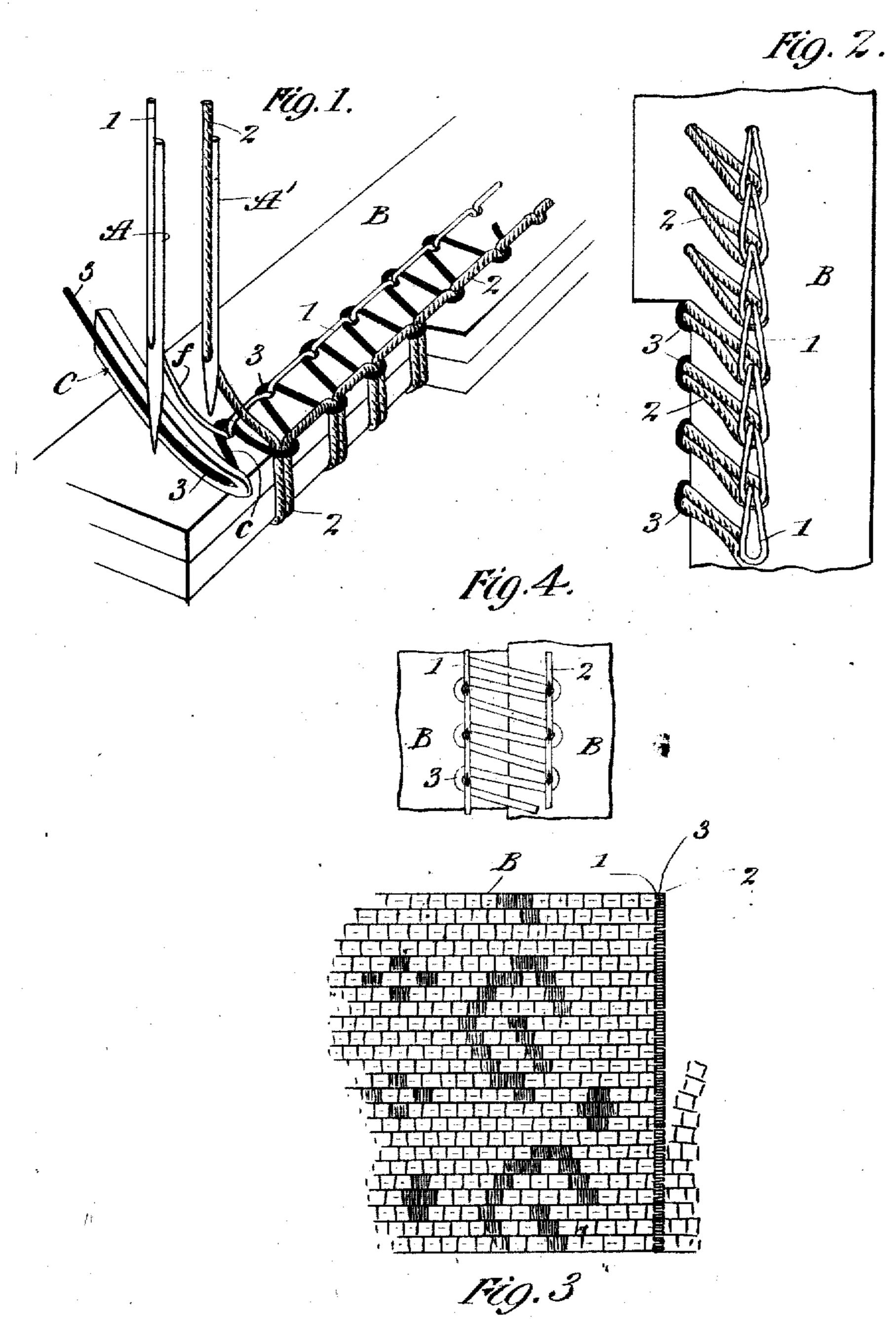
## H. H. FEFEL.

## SEAM FOR SEWED ARTICLES.

APPLICATION FILED DEC. 28, 1906. RENEWED DEC. 22, 1908.

930,368.

Patented Aug. 10, 1909.



Halas Mullahan

HENRY H. FEFEL Day his attorney

## UNITED STATES PATENT OFFICE.

HENRY H. FEFEL, OF NEW YORK, N. Y., ASSIGNOR TO DUPLEX SEWING MACHINE COMPANY. A CORPORATION OF MARYLAND.

## SEAM FOR SEWED ARTICLES.

No. 930,368.

Specification of Letters Patent.

Patented Aug. 10, 1909.

Application filed December 28, 1906, Serial No. 349,826. Renewed December 22, 1908. Serial No. 468,856.

To all whom it may concern:

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

This invention relates to edgings or seams, 10 one of my principal objects being to produce a neat and durable covering for the edges of lace or other open-work or loosely woven

material.

It has been proposed heretofore to apply 15 bindings or edgings to lace by first trimming the lace to the desired outline, then laying cords along such trimmed outline on one or both sides thereof, so that the open spaces on the pattern of the lace are bridged by a con-20 tinuous body of material, and then joining the cords and lace together by an overseaming stitch. Such a method is disclosed in United States patent to S. Borton, No. | 556,300, March 10, 1896, but in this case as | the peculiar nature of the stitch and the manner of applying the same have necessitated trimming in advance of sewing.

In accordance with my invention, I dis-30 pense with cords, tapes or the like, and form an edging by a peculiar concatenation of three threads which I am enabled to apply to the goods by sewing through the same at any desired distance from the edge thereof, and 35 then finish off by trimming close to the threads; an obvious advantage in working goods of loose weave or of open or flimsy nature. The nature of the stitch also admits of sewing "over the edge" of previously

40 trimmed goods; if desired. The invention will be better understood by

reference to the accompanying drawing, in which--

Figure 1 is a perspective diagrammatic 45 view illustrating my invention; Fig. 2 is an under plan view, also diagrammatic showing what does not appear in Fig. 1; Fig. 3 is a view showing an edging applied to a bit of lace or similar open work material; Fig. 4 is 50 a view showing how two pieces of material laid edge to edge may be united by my stitch.

In carrying out my invention I make use of two vertically moving needles, a looper and loop retainer, both located beneath the

work, and a thread-carrying looper located above the work and adapted to move to and fro between the needles at an angle to the line of feed.

In Fig. 1 I have shown conventionally two 60 needles and a thread-carrying looper arranged in operative relation, but the other parts above mentioned are omitted, since they form no part of the present invention and may be of any well known or any pre- 65 ferred construction.

Referring to the drawing by characters, A, A', represent two vertically moving needles, carrying threads 1 and 2 respectively, the latter preferably, being of heavier or 70 thicker body than the former. These two threads on the upper surface of the goods B show as two lines of stitching spaced apart, and on the under side of the goods (Fig. 2) as two series of concatenated loops, each 75 loop of thread 1 passing through the previously formed loop in said thread as well as through a previously formed loop in thread 2. A third thread 3 is carried by a looper C 25 well as in all others, in so far as I am aware | located above the work and adapted to pass 80 to and fro between the needles at an angle to the line of feed (represented by the arrow in Fig. 1), the looper crossing behind needle A and in front of needle A', and interlacing thread 3 with the loops of threads 1 and 2 as 85 clearly shown.

> Fig. 1 shows several completed stitches made through the goods, and several made by sewing "over the edge" in which case needle A' passes close to the edge of but does so not pierce the goods. In this figure the needies are represented as descending for a new stitch, and as they pierce the goods needle A will be in front of and needle A' behind the looper C, and as the latter retreats loop c will 95 be left around said needle A' and thread 3 laid across the goods to the other line of stitching (thread 1) and under loop f of said thread. The needles now rising, the feed takes place and the looper comes forward 100 and again passes under thread 1 thereby leaving a loop around the loop just formed in thread 1, and continues on across the goods and presents another loop to be taken off by needle A'.

> It will be observed that thread 3 is so applied that every needle loop of both needle threads is engaged thereby. No loops being skipped the two lines are securely locked together both above and beneath the goods, 110

and whether both needles pierce the goods or not. In fact the chain will be formed just the same when neither needle engages the goods, a very desirable feature in working toosely woven goods.

The stitch as made in practice is flat, compact and of neat appearance, the goods being well covered, and may be used advantageously as a purely ornamental or em-

10 broidery stitch.

The herein described seam or edging for loosely woven fabrics comprising two parallel rows of stitching formed by two distinct threads whose loops are interlinked on the underside of the fabric by causing each loop of one of said threads to pass through the previously formed loop of said thread as well as through the previously formed loop of the other of said threads, in combination with a third thread which is laid in zig-zag fashion

across the upper surface of the goods from one of said parallel rows of stitching to the other and which forms a double series of open loops, every loop of the outer row of 25 stitching being embraced by a correspondingly located loop in one of said series of open loops formed by said third thread, and every loop of the inner row of said stitching being embraced by a correspondingly located loop in the other series of open loops in said third thread whereby every loop of said outer row of stitching will be fastened to and supported by said inner line of stitching both above and below the goods.

Signed at New York in the county of New York and State of New York this 22nd day

of December A. D. 1906.

HENRY H. FEFEL.

Witnesses:

W. V. Schramm, J. H. Rubenstein.