

Oct. 6, 1936.

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2,056,580

FLAT SEAM FOR SEWED ARTICLES

Filed Oct. 31, 1933

2 Sheets-Sheet 1

FIG. 2.

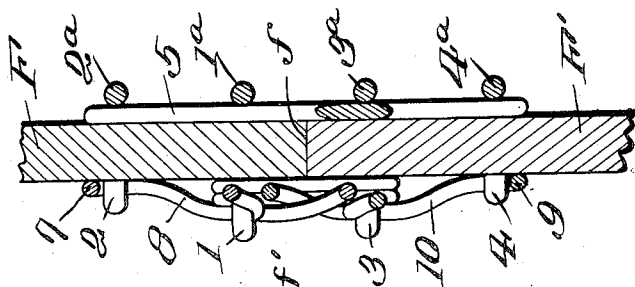


FIG. 1a.

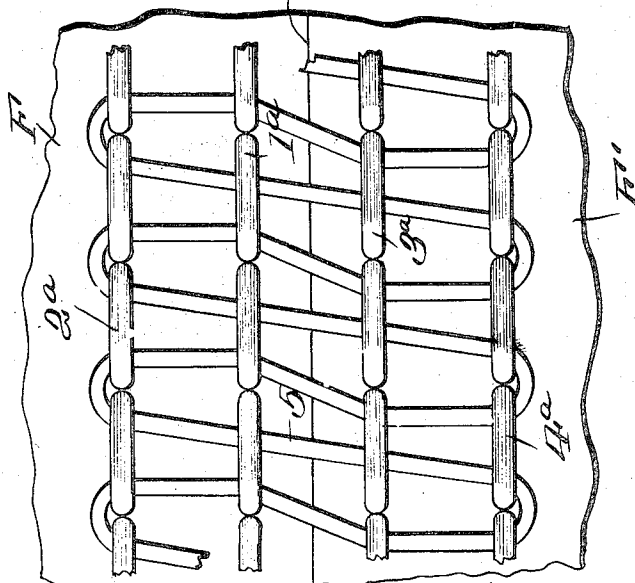
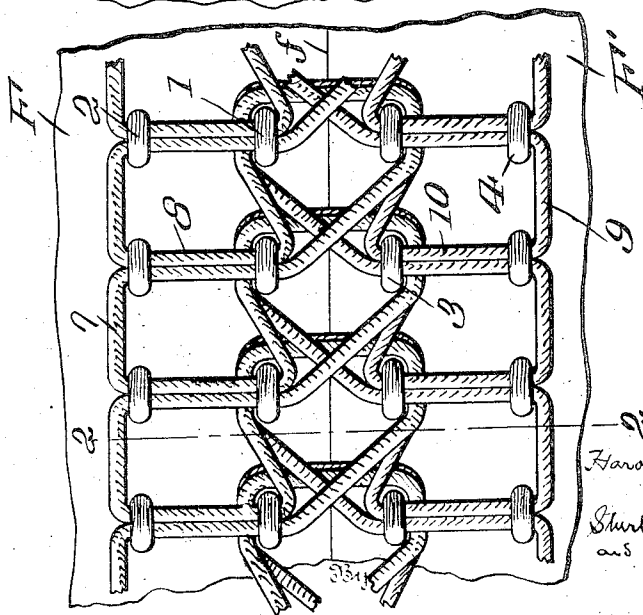


FIG. 1.



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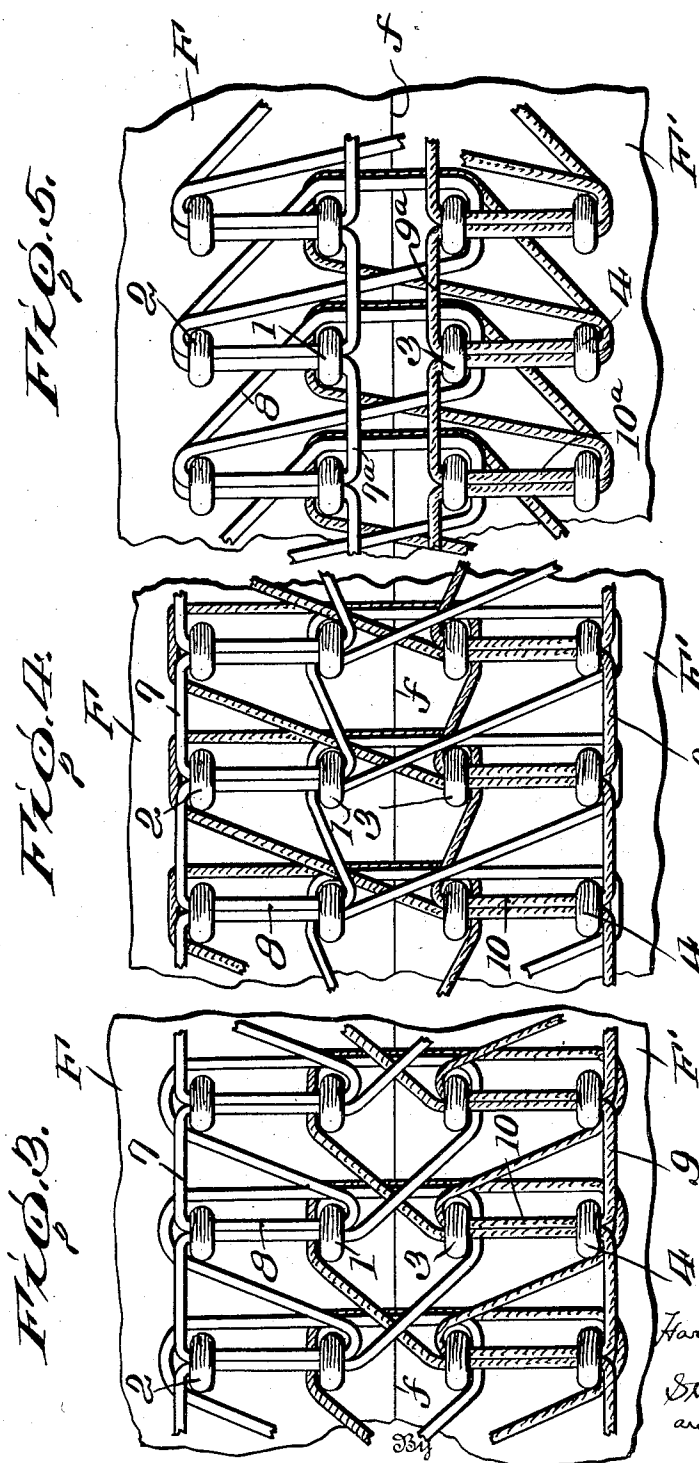
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FLAT SEAM FOR SEWED ARTICLES

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2 Claims. (Cl. 112-262)

The invention relates to new and useful improvements in a seam for sewed articles and more particularly to a flat seam for joining the meeting edges of fabric sections.

5 An object of the invention is to provide a flat seam wherein the meeting edges of the fabric sections are joined by needle thread loops, a cross thread, and looper thread loops, and wherein the looper thread loops not only lock the needle
10 thread loops but join the fabric sections and cover the meeting edges thereof.

In the drawings:

15 Figure 1 is a bottom plan view showing more or less diagrammatically on a very large scale a flat seam embodying the improvements.

Figure 1a is a plan view of the seam from the upper face thereof and showing a particular manner of arranging the cross thread joining the needle thread loops.

20 Figure 2 is a sectional view on the line 2-2 of Figure 1.

Figure 3 is a view similar to Figure 1, but showing a slightly modified arrangement of the looper thread loops.

25 Figure 4 is a view similar to Figure 1, but showing a still further modified arrangement of the looper thread loops.

Figure 5 is a view similar to Figure 1, but showing a slightly modified location of the looper thread which is formed into loops.

30 In carrying out the invention, two fabric sections to be joined have their meeting edges brought together and, as shown in the drawings, they are abutted although it is obvious that they may be slightly lapped. Passing through each fabric section is a pair of needle thread loops and these pairs of needle thread loops are arranged abreast or in a line at right angles to the meeting edges of the fabric sections. Associated with each pair of needle thread loops is a looper thread which is formed into loops, and these loops are passed through the pair of needle thread loops for locking the same. The looper thread loop is expanded across the meeting edges of the fabric sections and is entered by one or more of the needle thread loops in the next stitch formation, so that the looper thread loops not only lock the needle thread loops, but they join the fabric sections and cover the meeting edges thereof. The needle thread loops are connected on the upper face of the fabric by one or more cross threads which are passed about the shanks of the outer needle thread loops and tied down by the needle threads forming the inner loops of the pairs.

55 Referring more in detail to the drawings and to Figures 1, 2 and 3, the invention is shown in a flat seam used for joining the two fabric sections F and F'. These fabric sections have their meeting edges f abutted. They may, however, be

slightly overlapped but it is preferable to abut the edges in order that the seam may be, so far as possible, a flat seam without ridges. Extending through the fabric section F are pairs of needle thread loops. The needle thread loop 1 of said pair passes through the fabric sections adjacent the meeting edges f. The needle thread from which these loops are formed is indicated at 1a. The needle thread loop 2 of said pair extends through the fabric sections well back from the meeting edges and serves the purpose of anchoring thread loops. These needle thread loops are formed from the needle thread 2a. On the opposite side of the meeting edges of the fabric sections there are pairs of needle thread loops. The inner thread loop 3 of the pair is formed from the needle thread 3a and is located adjacent the meeting edges of the fabric sections. The outer needle thread loop 4 is formed from the needle thread 4a and is back from the meeting edges and serves as an anchoring loop. On the upper face of the fabric sections there is a cross thread 5. This cross thread is laid back and forth, first around the shank of the outer needle thread loop at one side of the seam and then around the shank of the needle thread loop at the other side of the seam. It is arranged so that it is tied down by the intermediate needle threads 1a, 3a. The loops of needle threads in the opposed pairs are arranged abreast or in a line at right angles to the meeting edges of the fabric sections.

The needle thread loops on the underface of the fabric are locked by looper thread loops. There is a looper thread 7 associated with the needle thread loops 1 and 2. This looper thread is formed into a looper thread loop 8 which extends through the needle thread loop 2 and then through the needle thread loop 1. The looper thread loop 8 is expanded, as shown in Fig. 1, so that it extends across the meeting edges of the fabric sections. This loop is entered by the needle thread loop 1 and also by the needle thread loop 3 in the next stitch formation. Associated with the needle thread loops 3 and 4 is a looper thread 9. This looper thread 9 is formed into a looper thread loop 10 which passes first through the needle thread loop 4 and then through the needle thread loop 3. The loop 10 is then expanded and extends across the meeting edges of the fabric sections and is likewise entered by the needle thread loops 1 and 3.

60 It will be apparent from the above description that the needle thread loops in the opposed pairs are locked by the two looper thread loops which pass through the respective pairs, and both of the looper thread loops extend about the inner needle thread loops of the opposed pairs in the next stitch formation. Thus, it is that the looper thread loops 8 and 10 not only lock the needle

thread loops but they also tie together the rows of needle thread loops and thereby bind together the fabric sections. Furthermore, these looper thread loops cover and substantially conceal the meeting edges in the finished seam. The cross thread, as referred to above, binds together the pairs of needle thread loops, thus joining the fabric sections on the upper face thereof and in a large measure covering the meeting edges.

In Figure 3 of the drawings there is shown a flat seam which is similar to the flat seam just described in connection with the disclosure in Figures 1 to 2. The only difference resides in the manner in which the looper thread loops are arranged and locked by the needle thread loops in the next stitch formation. Similar reference letters are therefore applied to Fig. 3 as have been applied to Figures 1 to 2. The looper thread loop 8 is expanded so as to encircle not only the needle thread loops 1 and 3 but also the needle thread loop 2. The looper thread loop 10 is likewise expanded so as to encircle not only the needle thread loop 1 but also the needle thread loops 3 and 4. The needle thread loops 2 and 4 are passed through the fabric sections well back from their meeting edges and may be referred to as anchoring loops. The needle thread loops 1 and 3 pass through the fabric sections adjacent their meeting edges and may be referred to as tying-down loops. They tie down the cross thread and secure the looper thread loops along the central part of the seam, thus firmly uniting all of the strands of the threads forming the seam. When the looper thread loops extend laterally about the anchoring needle thread loops, they form a stronger tie between the fabric sections than where they merely encircle the inner needle thread loops, as shown in Figure 1.

In Figure 4 of the drawings there is shown a still further modified form in the arrangement of the looper thread loops. The looper thread loop 8 is expanded so as to encircle the needle thread loops 1, 3 and 4, while the looper thread loop 10 is expanded so as to encircle the needle thread loops 3, 1 and 2. Here again we have the looper thread loops encircling the shanks of the anchoring needle thread loops and thus more effectively tying together the fabric sections.

In Figure 5 of the drawings there is shown a further modified arrangement of the locking and covering looper threads. In this form of the invention the looper thread 7a lies along the inner rows of needle thread loops 1 and a looper thread loop 8 is formed in said thread and passed first through the needle thread loop 1 and then through the needle thread loop 2. This looper thread loop 8 is then expanded and extends about the needle thread loops 1 and 3 in the next stitch formation. There is also a looper thread 9a associated with the inner rows of needle thread loops 3. This looper thread 9a is formed into looper thread loops 10a. There is a looper thread loop which is passed through the inner needle thread loop 3 and the outer needle thread loop 4. The looper thread loop 10a is then expanded so that it encircles the looper thread loops 1 and 3. This seam construction shown in Figure 5 is similar to that shown in Figure 1, except that the looper threads lie along the inner rows of needle thread loops instead of the outer rows of needle thread loops.

It will be understood that the looper thread loops of the stitch formation shown in Figure 5 may be arranged so as to encircle the anchoring needle thread loops in the manner disclosed in connection with Figure 3 or 4 if desired. From the description which has been given above, it will be noted that a flat seam has been produced wherein looper thread loops are utilized for locking pairs of needle loops disposed on opposite sides of the meeting edges of the fabric sections and said looper thread loops are expanded so as to encircle one or more of the needle thread loops in each pair of opposed loops at the next stitch formation. This very effectively ties together the fabric sections on the underface of the fabric sections and covers the meeting edges of said fabric sections. The cross thread on the upper face of the fabric sections encircles the shanks of the needle thread loops in the anchoring rows and thus very effectively ties together the fabric sections and covers the upper face of the meeting edges. The seam which is described above in detail is very simple in construction, requiring a minimum amount of thread, and yet it forms a strong flat seam wherein the edges of the fabric sections are firmly united and said meeting edges substantially covered and concealed by the stitching threads. The drawings are on a very large scale in order to show the loop formation. In the finished seam, however, the threads are very close together and effectively cover said meeting edges.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:

1. A flat seam for sewed articles comprising fabric sections having their edges meeting, pairs of needle thread loops arranged on opposite sides of said meeting edges and extending through the fabric sections to the same face thereof, said needle thread loops being arranged in a line at right angles to the meeting edges of the fabric sections, a looper thread associated with each pair of needle thread loops on the same face of the fabric sections and formed into loops which extend through both needle thread loops for locking the same, each of said looper thread loops being expanded across the meeting edges of the fabric sections and encircling one or more of the needle thread loops of each of the opposed pairs in the next stitch formation for joining the fabric sections and covering the meeting edges thereof, and a cross thread on the other face of the fabric sections extending about the shanks of the outer needle thread loops for joining the fabric sections and covering the meeting edges.

2. A flat seam for sewed articles comprising fabric sections having their edges meeting, pairs of needle thread loops arranged on opposite sides of said meeting edges and extending through the fabric sections to the same face thereof, a looper thread associated with each pair of needle thread loops, each looper thread being formed into loops which extend through the needle thread loops with which it is associated, said looper thread loops being expanded across the meeting edges of the fabric sections and encircling one or more of the needle thread loops of each of the opposed pairs whereby the meeting edges of the fabric sections are covered by the looper thread loops.

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