

No. 686,031.

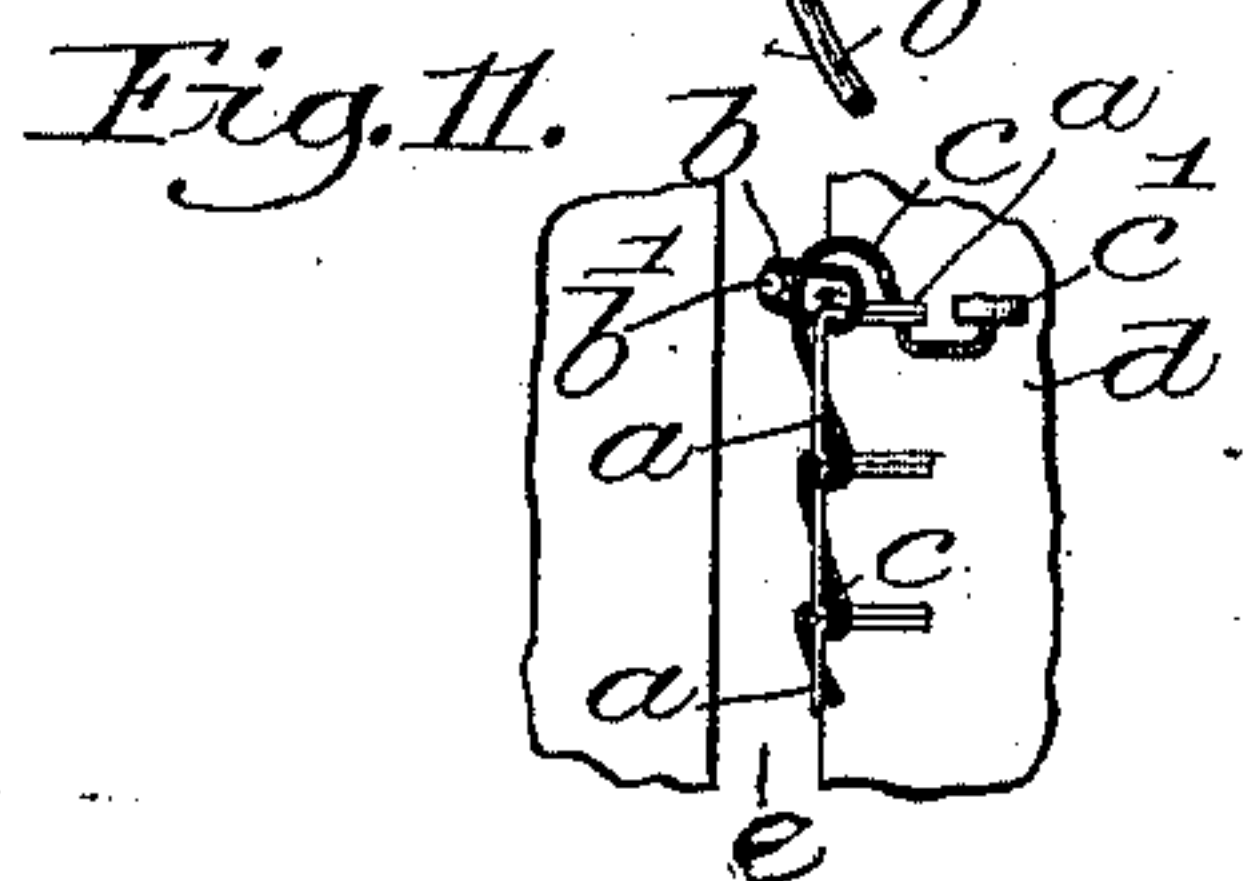
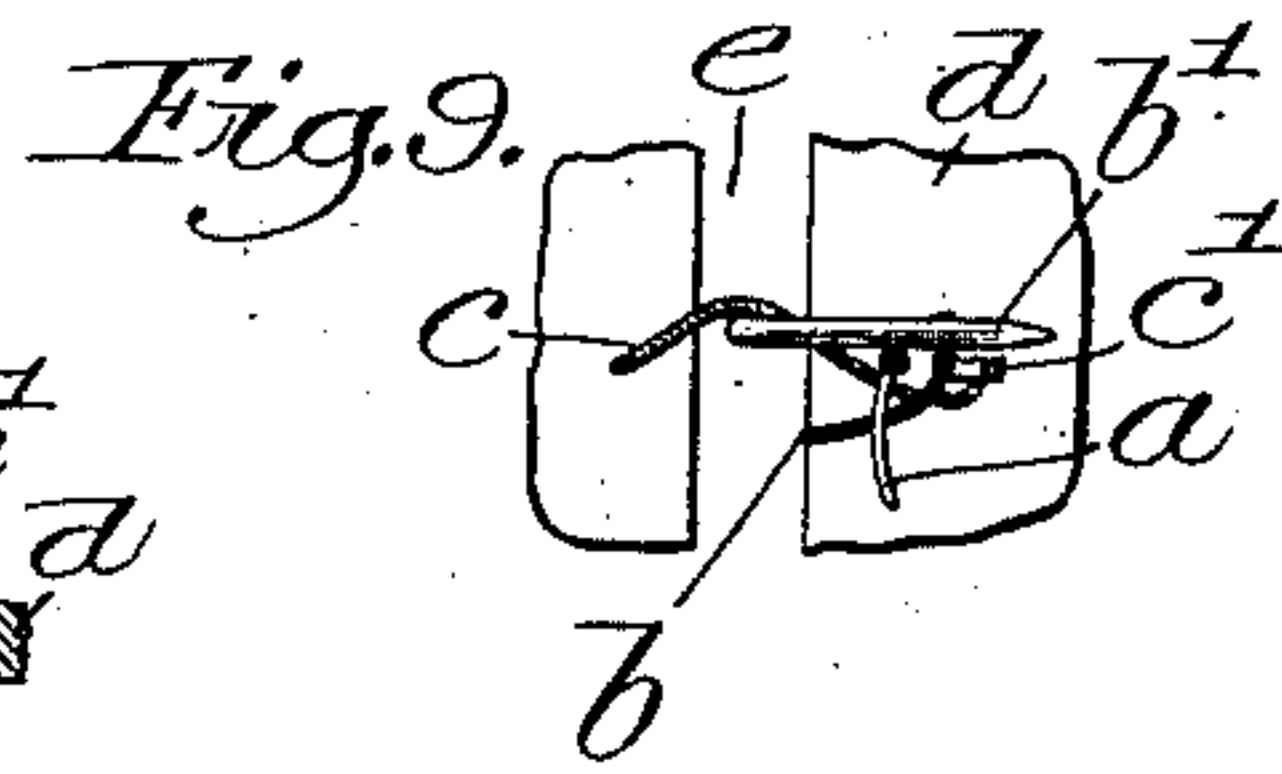
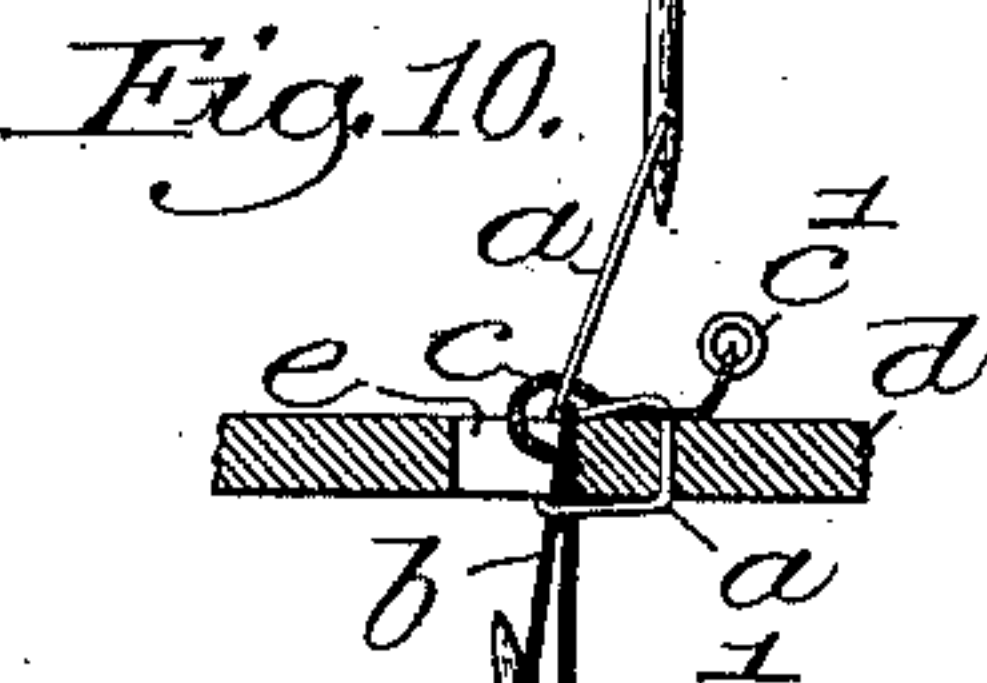
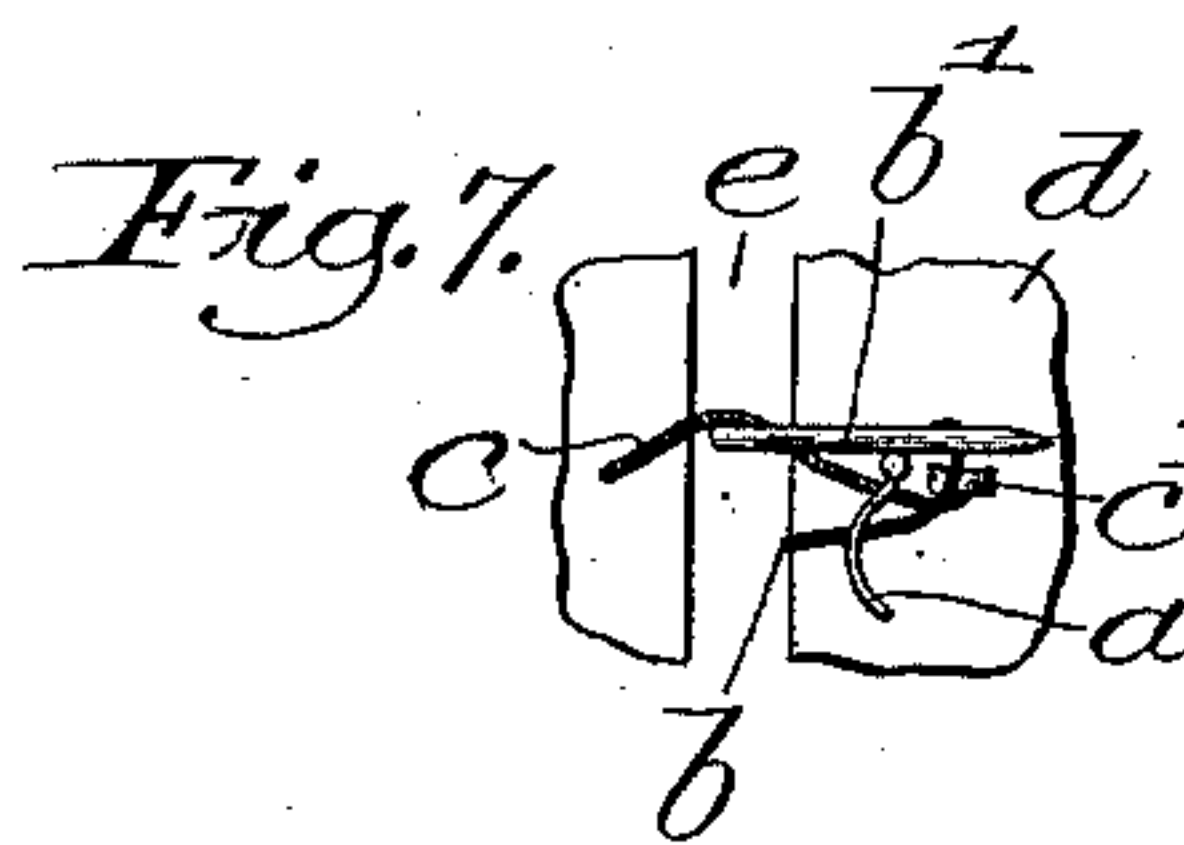
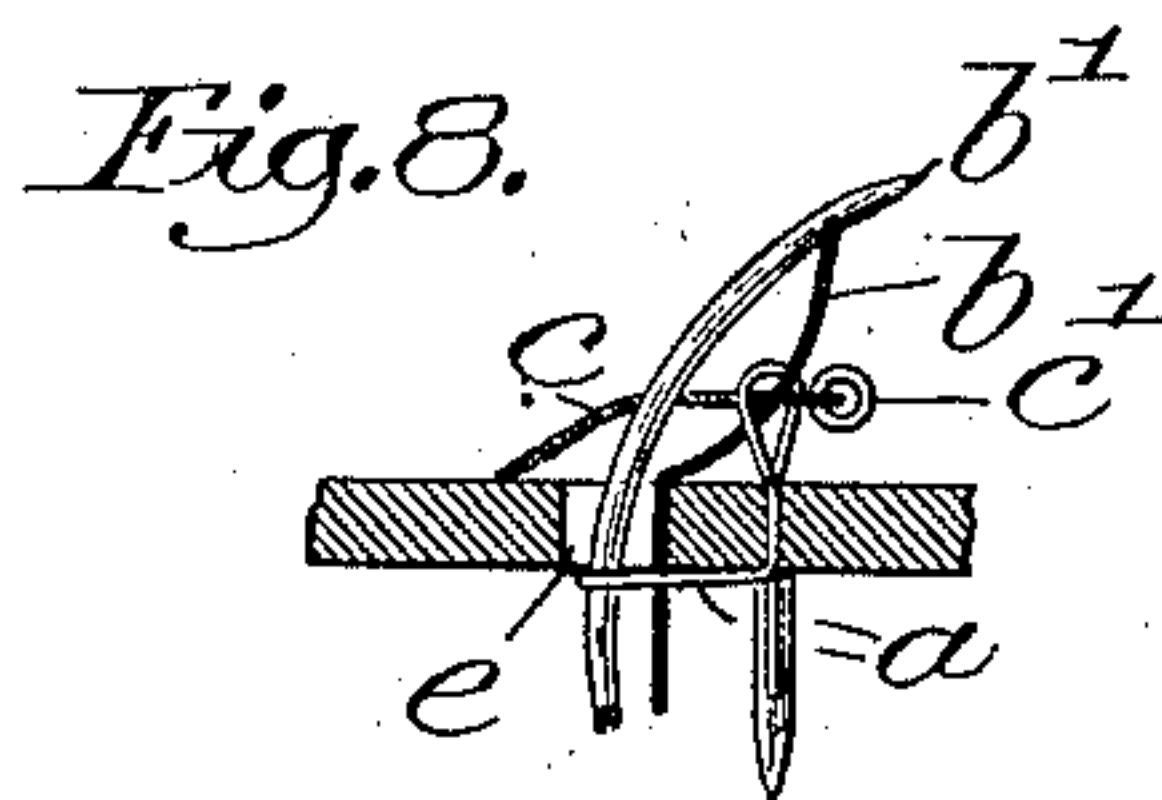
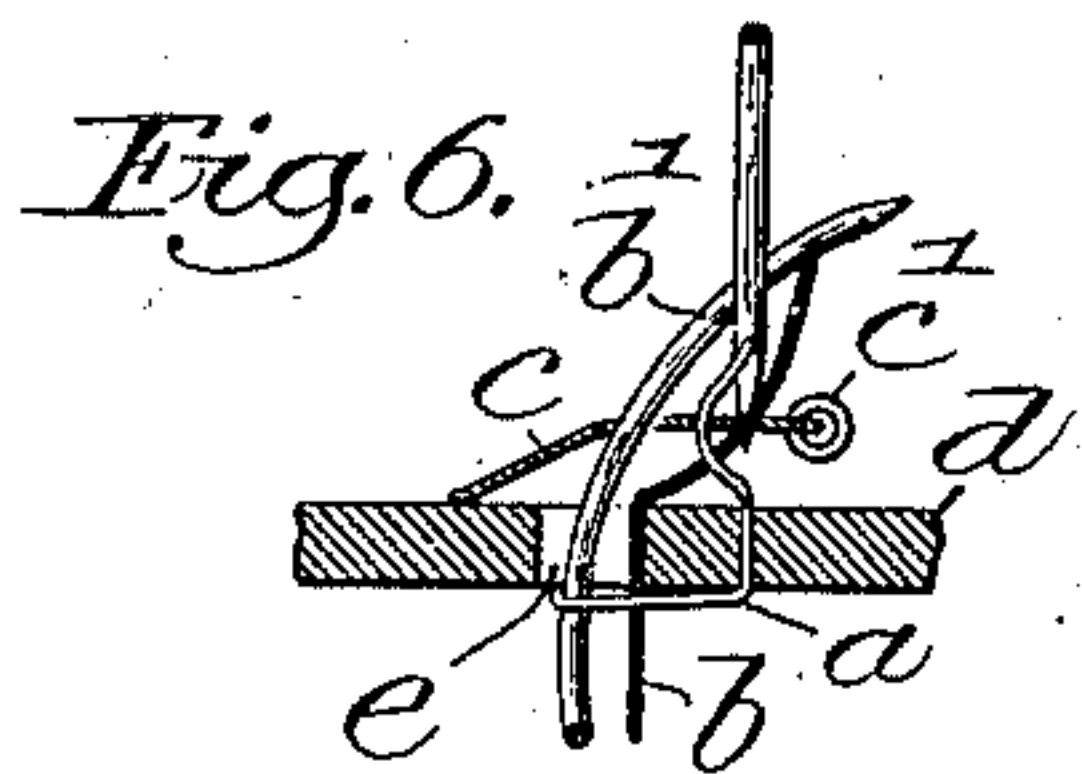
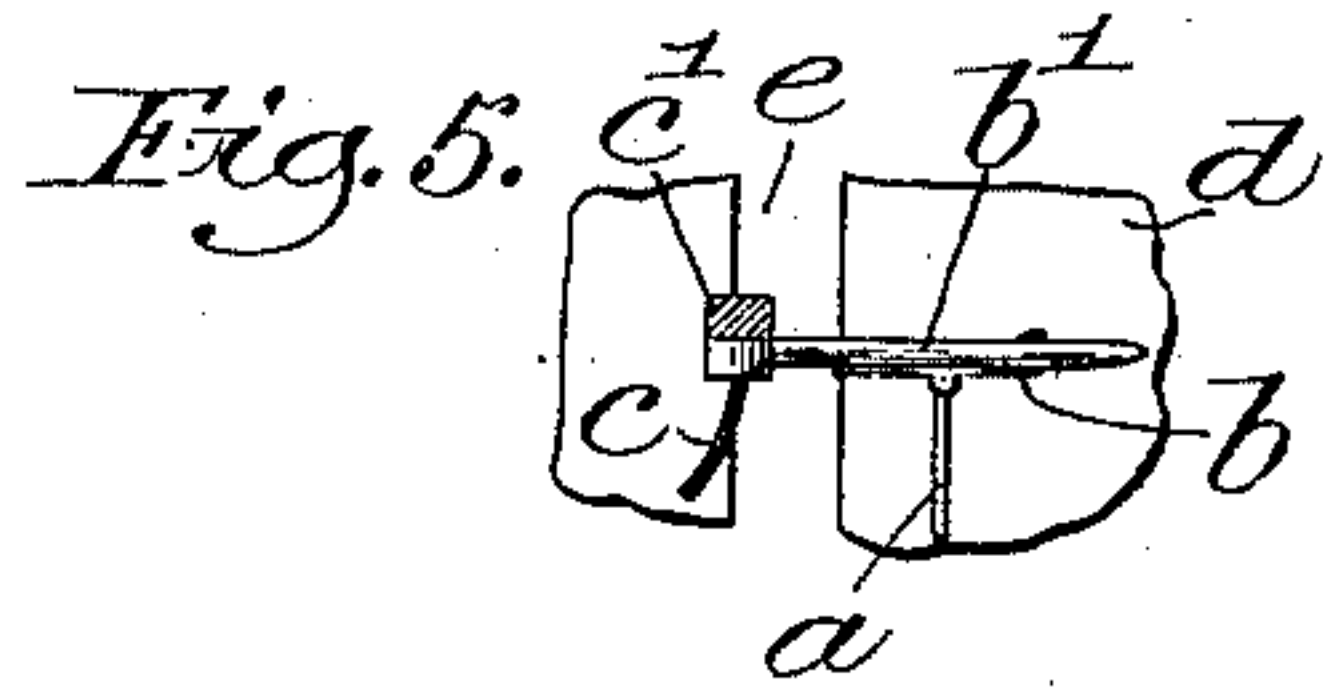
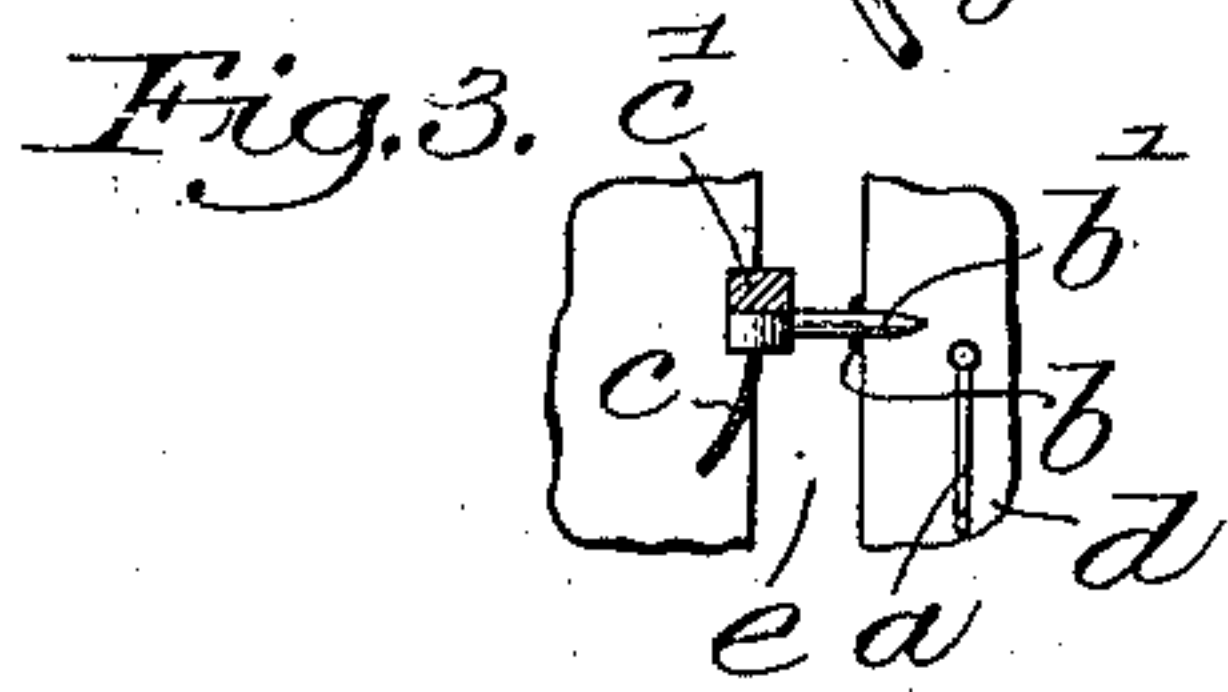
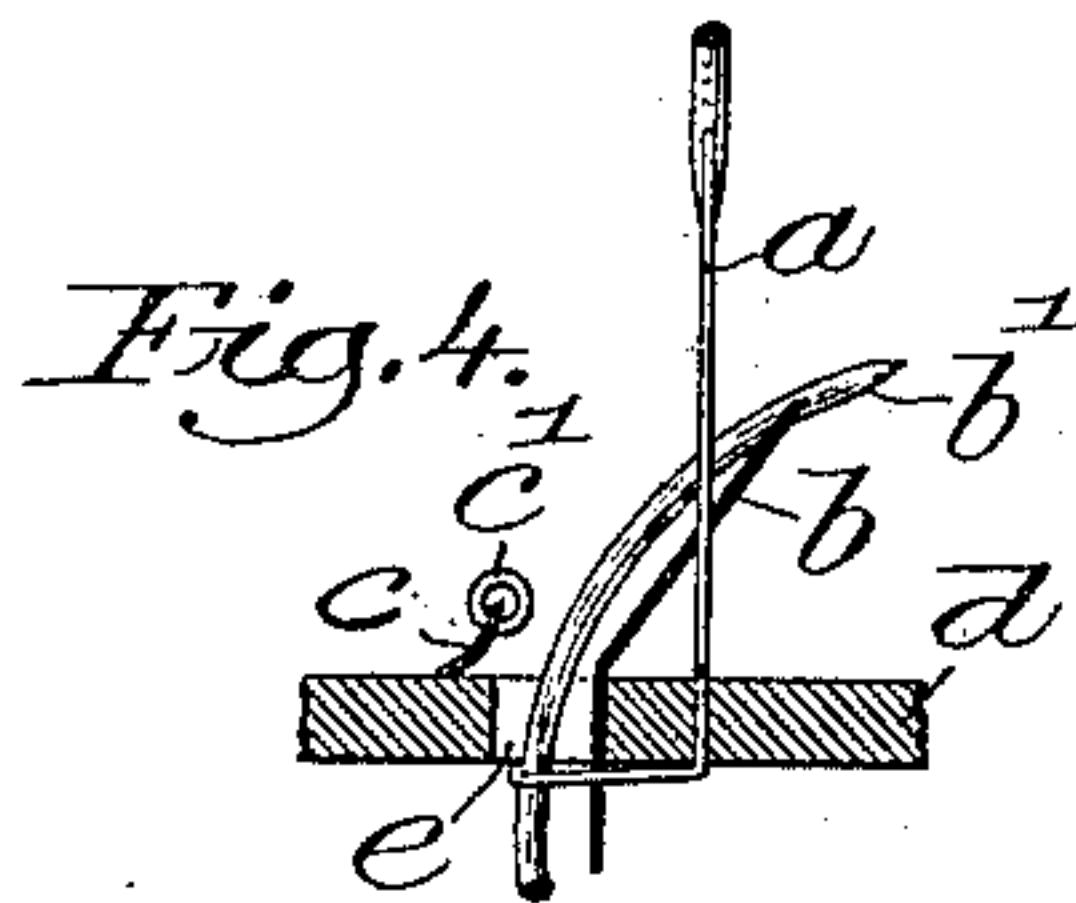
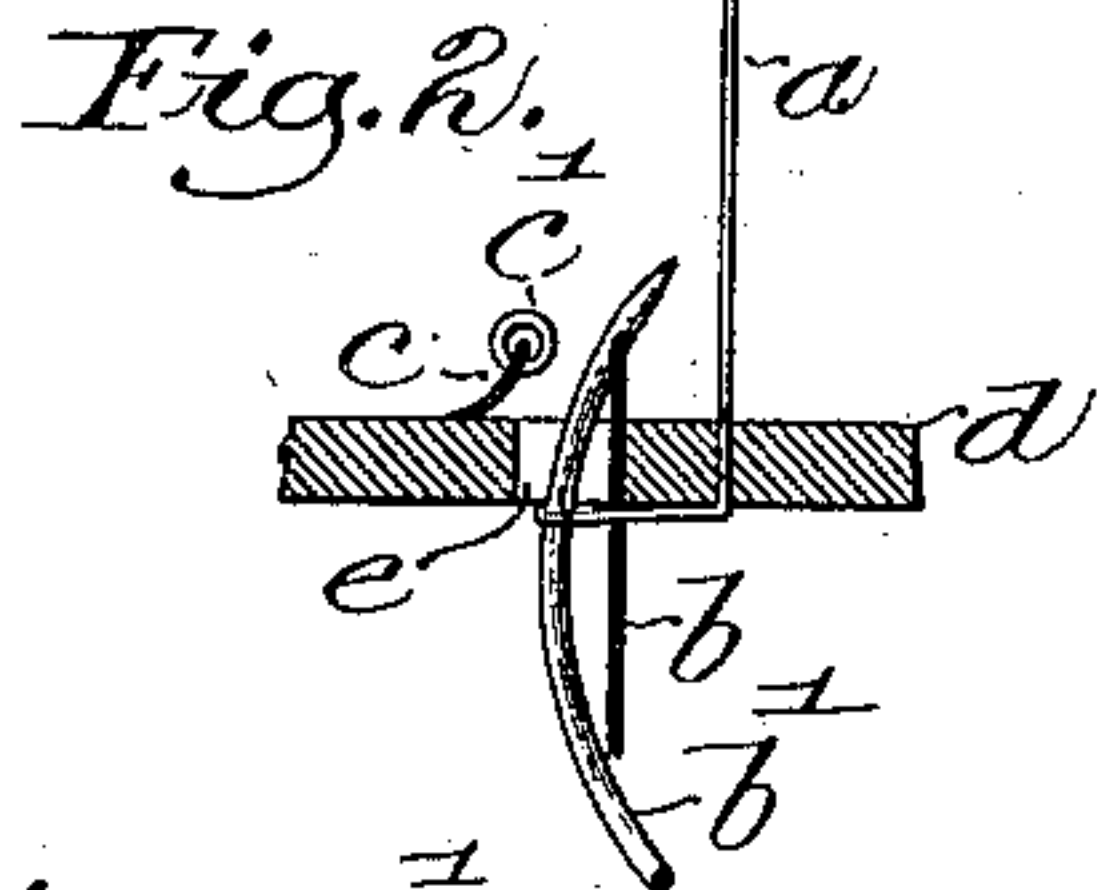
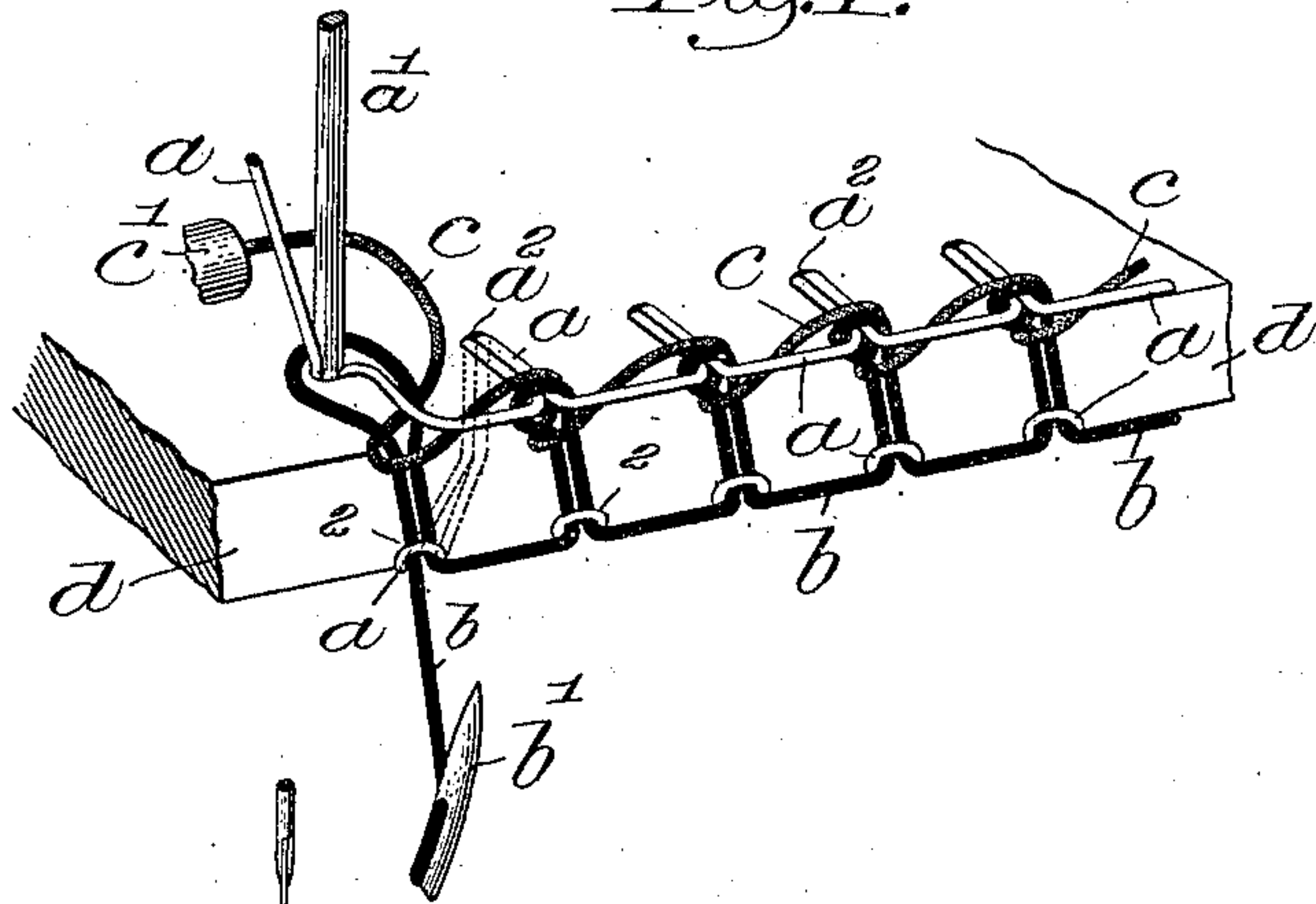
Patented Nov. 5, 1901.

C. A. DAHL & W. W. DIXON.  
SEAM FOR SEWED ARTICLES.

(Application filed June 13, 1901.)

(No Model.)

Fig. 1.



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# UNITED STATES PATENT OFFICE.

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## SEAM FOR SEWED ARTICLES.

SPECIFICATION forming part of Letters Patent No. 686,031, dated November 5, 1901.

Application filed June 13, 1901. Serial No. 64,383. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES A. DAHL, residing at Lynn, county of Essex, and WILLIAM W. DIXON, residing at Boston, county of Suffolk, State of Massachusetts, citizens of the United States, have invented an Improvement in Seams for Sewed Articles, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

Our invention relates to a novel seam for sewed articles, and in particular an overseam applicable for stitching button and eyelet holes to cover and protect the edges of the goods, the stitch showing a "purl" effect at the upper as well as at the lower edges of the overstitched goods or material.

The article forming the subject of this invention is best described by showing the best way known to us for producing it.

Our overseam is produced by the use of three threads, one carried by an eye-pointed needle which penetrates the material back of the edge to be covered by the overseam, a second thread carried by a looper moving across the edge of the material from its lower to its upper side, and a third thread carried by a purl-thread guide located above the material. The loop of needle-thread below the goods is entered at each descent of the needle by the looper, and the needle-thread is drawn thereby to the edge of the under side of the goods, and the looper rises from below the goods to the upper side thereof and presents its thread in the form of a loop to be entered by the needle as it next descends to pass its thread through the goods, and at the same time the purl-thread guide is so placed with relation to the looper above the goods and the elevated needle that the needle as it penetrates the loop of looper-thread above the goods also crosses over the purl-thread between the point where it is connected with the last stitch made and the end of the purl-thread guide.

In the formation of the overseam when the threads are drawn taut to complete the stitch parallel portions of the needle-thread leading

from the goods back of its edge to the upper edge of the goods are crossed at their outer side by the purl-thread, and the purl-thread then embraces parallel portions of the looper-thread near the point where the looper-thread embraces the needle-thread, and, acting against the outer sides of the parallel portions of the loop of looper-thread, forces said loop of thread and the needle-thread firmly in contact with the upper edge of the goods, thus making at that point a purl effect by the employment of the three threads. A purl effect is formed at the edge of the goods at its under side by the interloopment at that edge of the needle and the looper-threads.

Our improved overseam possesses great durability and capacity to resist strain and wear, and as the purl-thread embraces parallel parts of the needle-thread and of the looper-thread at the edge of the goods or at the face of the goods said threads, besides being bound firmly together at said edge are also so twisted that should the purl-thread be broken it cannot be raveled out, as would be the case if the purl-thread were wound spirally about the portion of the needle-thread extended along the edge between the substantially parallel parts of the needle-thread lying on the face of the goods.

In our seam the purl-thread is wound spirally around the needle and looper threads at their points of concatenation.

Figure 1 shows, on a large scale, one edge of a piece of goods and three threads forming an overseam made in accordance with our invention; and Figs. 2 to 11 show the implements for controlling or handling the three threads employed in the overseam; but it will be understood that the particular implements represented are not essential in the production of our overseam.

To facilitate making our overseam, we will designate the threads as "needle-thread" *a*, "looper-thread" *b*, and "purl-thread" *c*, and the goods or material in which the overseam is to be made as *d*. The goods will usually have a slit or opening, as *e*, which may be the slit for a buttonhole, and by the term "goods" we intend to include either cloth, leather, or



any other substance with which the stitches may be incorporated in the production of the seam.

For convenience in the manufacture of our  
5 overseam let it be supposed that the needle-thread is carried by an eye-pointed thread-carrying needle  $a'$ , the looper-thread by a looper  $b'$ , located normally below the goods, and the purl-thread by a purl-thread guide  $c'$ .

10 We have shown in our Patent No. 684,046, dated October 8, 1901, a sewing-machine containing an eye-pointed needle, a looper, and a purl-thread guide, such as herein partially illustrated, and that application shows and  
15 describes fully means for actuating said parts automatically and rapidly for the production of the overseam forming the subject-matter of this present invention.

Referring to Fig. 1, parallel portions of the  
20 needle-thread above the goods have been drawn by the purl-thread  $c$  from the point  $a^2$  where the needle  $a'$  penetrated the goods back from the edge to be provided with the overseam, and the needle-thread at the under side  
25 of the goods is led in a loop form, presenting substantially parallel portions to the edge of the goods, as at 2, and at this point a bight of the needle-thread is entered by the looper-thread  $b$ , it passing from the goods at its under  
30 edge across the said edge where the end of the loop of looper-thread is entered by parallel parts of the needle-thread.

Viewing Fig. 1, it will be noticed that the purl-thread first crosses the outer side of the  
35 parallel parts of looper-thread  $b$ , leading from the under side of the goods, and then across the outside of parallel parts of the needle-thread  $a$ , lying at the outer face of the goods, leading from the point where the needle penetrated the goods, strain on the purl-thread  
40 thus binding the looper and needle threads close to the goods at the edge thereof on its upper side, and by interlocking the threads, as described, the purl-thread, if broken, can-  
45 not be drawn out. As the purl-thread is drawn taut in the completion of each stitch it acts to pull it, as it were, from the points where the needle penetrates the goods and draw to the edge of the goods portions of the  
50 needle-thread. It will be noticed that this purl-thread passes spirally around the needle and looper threads at their points of concatenation.

Referring now to Fig. 2, illustrative of one  
55 way that the overseam may be produced, it will be seen that the needle  $a'$  has penetrated the goods and has left a loop at the under side thereof and that the looper has entered the loop of needle-thread and is rising through  
60 said loop that the looper-thread may be so presented with relation to the path of movement of the needle  $a'$  that the latter at its next descent may enter a loop of looper-thread. With the needle and looper in the position  
65 Figs. 2 and 3 the end of the purl-thread guide  $c'$  will stand at one side of the slit  $e$ , as represented in Figs. 2 and 3, and it will be

supposed that a stitch has already been made and that the end of the purl-thread is connected with the goods at the right-hand side  
70 of the slit  $e$ , Figs. 2 and 3. Fig. 4 shows the looper as having substantially completed its upward movement, and in this condition the purl-thread guide will be moved from the position, Figs. 3 and 5 forwardly, crossing the  
75 edge of the goods in which the overseam is being made, and the purl-thread guide will be so moved as to wrap its thread about the shank of the looper, as represented in Fig. 7, and after the purl-thread guide shall have  
80 been moved to draw its thread about the shank of the looper the needle will then descend and will enter, as shown in Fig. 6, the loop of looper-thread, and will also descend at the farther side of the purl-thread, crossing the  
85 latter between the purl-thread guide and the body of the looper. Figs. 8 and 9 show the needle as having descended, as stated. The next step is to withdraw the looper from the loop of needle-thread at the under side of the  
90 material or to move the looper from the position Fig. 8 into the position Fig. 10. As the looper descends from the position Fig. 8 into the position Fig. 10 the needle also rises, and as the looper descends it acts upon the looper-  
95 thread surrounding the needle-thread above the material, acting to draw the needle-thread from the point where it is held in the material back from the edge thereof forwardly to the edge of the material, and at the same time  
100 the purl-thread guide is moved from the position Figs. 9 and 11 back into the position Figs. 2 and 3, and in so doing the purl-thread crossing (see Fig. 11) the outer side of the  
105 loop of looper-thread is drawn taut and laid in a position to cross the outer side of the parallel parts of needle-thread, as represented in Fig. 1.

Having described our invention, what we claim, and desire to secure by Letters Patent, 110 is—

1. The improved overseam described for sewed articles, comprising a piece of goods, a needle-thread, a looper-thread, and a purl-  
115 thread, the needle-thread extending through the goods at a short distance from its edges and leading therefrom both above and below the goods to the lower and upper edges of the goods, the looper-thread entering the loop of needle-thread drawn to the under edge of the  
120 goods and being laid to cross the edge of the goods to the upper side thereof, the loop of looper-thread above the goods receiving through it the needle-thread, substantially parallel parts of the loops of looper-thread and  
125 of the needle-thread at or near the upper edge of the goods being overlaid or crossed externally by the purl-thread, the latter after crossing the loop of looper-thread near where it is entered by the needle-thread crossing the  
130 substantially parallel parts of the loop of needle-thread.

2. A seam for sewed articles, comprising a piece of goods, a thread passing through the



goods at a distance from the edges and formed into two series of loops extending to said edges, a second thread at the edges of said goods concatenated with each of the two series of loops of the first thread, a third thread lying spirally around said first and second threads at their points of concatenation and passing beneath the bends of said series of loops of the first thread, whereby a purl edge is formed at both edges of the goods.

3. A seam for sewed articles, comprising a piece of goods, a thread passing through the goods away from the edges and formed into two series of loops extending to said edges, a second thread formed into a series of loops, said loops passing through the loops of one series of the first thread and surrounding adjacent bights of adjacent loops of the other series of the first thread, a third thread passing spirally around the first and second threads at their points of concatenation along one edge of the goods, said thread passing beneath the bends of the series of loops in the first thread, whereby a purl edge is formed at both edges of the goods.

4. A seam for sewed articles, comprising a piece of goods, a thread passing through the goods away from the edges and formed into two series of loops extending to said edges, a second thread formed into a series of loops, said loops passing through the loops of one series of the first thread and surrounding adjacent bights of adjacent loops of the other series of the first thread, a third thread concatenated with said first and second threads along one edge of the goods and overlying the loops of the second thread and overlying adjacent bights of adjacent loops of the first thread, and underlying both threads at their points of concatenation, whereby a purl edge is formed at both edges of the goods.

5. A seam for sewed articles, comprising a piece of goods, a thread passing through the goods, away from the edges and formed into two series of loops extending to said edges, a second thread formed into a series of loops, said loops passing through the loops of one series of the first thread and surrounding adjacent bights of adjacent loops of the other series of the first thread, a third thread concatenated with the first and second threads along one edge and underlying the bends of the loops of the first thread, overlying the bights of the loops of the second thread, underlying both the first and the second threads at their points of concatenation, and overlying the adjacent bights of adjacent loops of the first thread, whereby a purl edge is formed along both edges of the goods.

6. A seam-sewed article comprising a piece of goods, a thread formed into a series of loops across the edges of the goods, another thread passing through the goods away from the edges and concatenated with the first thread along both edges of the goods, a third thread passing spirally around the first and second threads at their points of concatenation along one edge of the goods, said thread passing beneath the bends of the series of loops in the first thread, whereby a purl edge is formed along both edges of the goods.

In testimony whereof we have signed our names to this specification in the presence of the subscribing witnesses.

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WILLIAM W. DIXON.

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