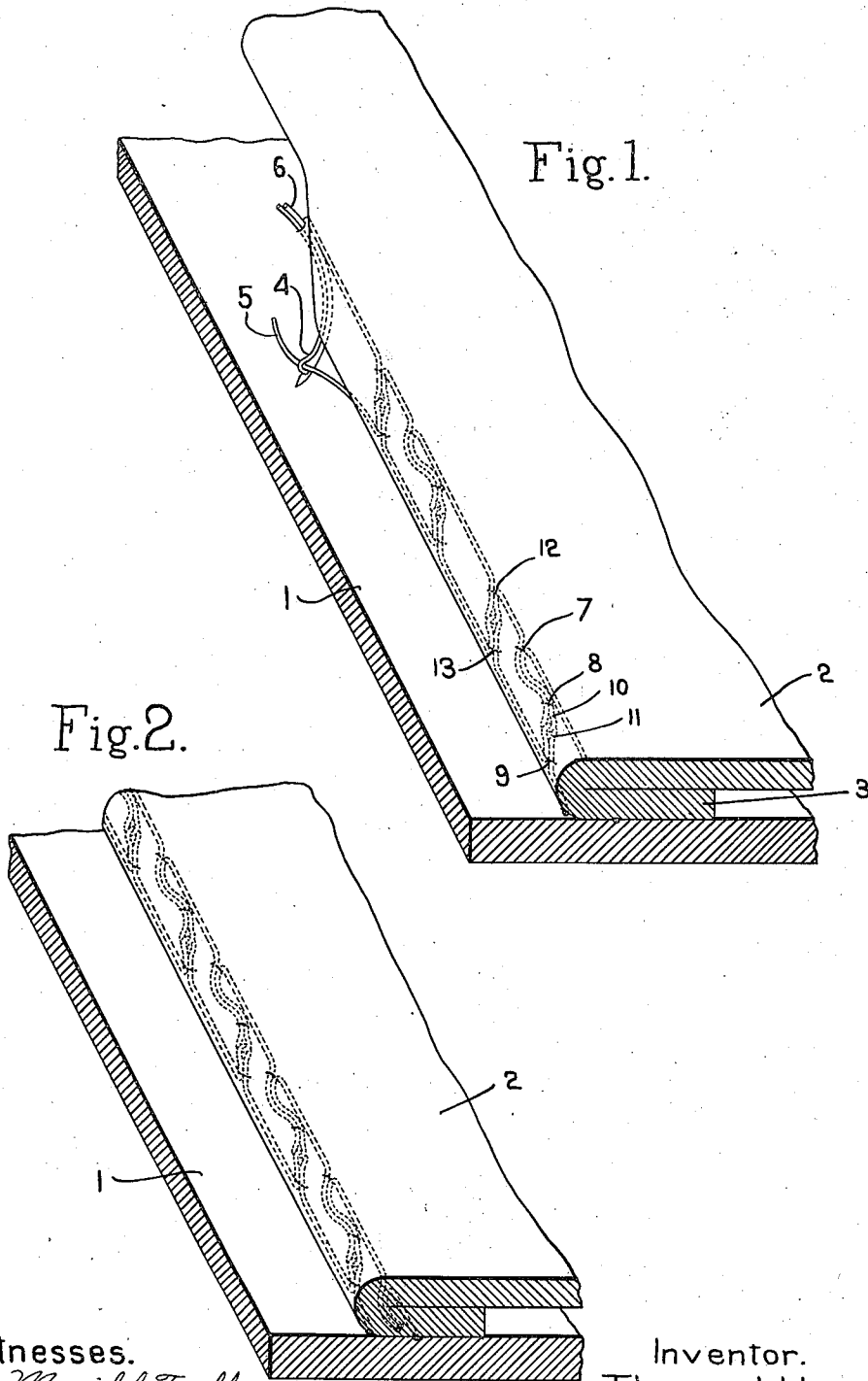


T. J. HAYES.
SEAM FOR SEWED ARTICLES.
APPLICATION FILED JAN. 23, 1915.

1,201,294.

Patented Oct. 17, 1916.



Witnesses.
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UNITED STATES PATENT OFFICE.

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SEAM FOR SEWED ARTICLES.

1,201,294.

Specification of Letters Patent.

Patented Oct. 17, 1916.

Application filed January 23, 1915. Serial No. 4,051.

To all whom it may concern:

Be it known that I, THOMAS J. HAYES, a citizen of the United States, residing at Roslindale, county of Suffolk, State of Massachusetts, have invented an Improvement in Seams for Sewed Articles, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing
10 like parts.

This invention relates to a seam for sewed articles designed to be made by a sewing machine and particularly adapted for use in what is known as "felling" work, where
15 the edge which is preferably an inturned edge of a superimposed layer or layers of fabric is attached to a main layer by blind stitches or stitches entering and emerging from the same face of the work.

It is highly desirable in this felling work that the thread or threads forming the seam should also be concealed so far as possible on that side of the work carrying the superimposed layer and which is necessarily the
25 side upon which the stitches are placed in the work, and it is the object of the present invention to present a form of seam in which the several stitches are all similarly placed with respect to the edge of the superimposed
30 layer and in which the embedded portions of the stitches in the superimposed layer lie between points both of which are beneath the top surface of the superimposed layer so that the entire mass of thread may be concealed beneath the edge.
35

It is the further object of the invention to present a seam of this character in which there is but a single row of stitches extending longitudinally of the seam and hence capable
40 of being made by a machine in which there is no shogging or relative transverse movement between the needle and the work.

These and other features of the invention will appear more fully from the accompanying description and drawings and will be particularly pointed out in the claims.

Figure 1 is a view in perspective of a preferred form of the seam partially completed showing the superimposed layer bent backwardly at the uncompleted end and the
50 needle in its position making a stitch, the threads being shown in dotted lines; Fig. 2 is a view of another form of the same seam in which the base layer is caught by the thread at each stitch.

In the seam as illustrated in the drawings, there is necessarily much exaggeration of the dimensions of the fabrics and threads and the illustration is not to be taken as exact but simply as for the purpose of disclosing
60 the principle of the construction of the seam and the method of its making.

The superimposed fabric is shown as consisting of one layer having an inturned edge, although it is obvious that the character of
65 the edge and the number of the superimposed layers is not material to the invention. So, too, the seam is shown as of the lock stitch type comprising two threads, but in its broader aspects the invention is not limited
70 to the number of threads or the particular character of the concatenation. It will also be understood that the locking points or the points at which the two threads engage may
75 vary in position relative to the fabric depending upon the tension applied to the threads, and this locking point may be drawn into either fabric or left upon the surface of either fabric as required or found desirable under the particular conditions. Again
80 it is to be understood that when the seam is finished and the threads drawn up snugly by the tension the edge of the superimposed layer or layers will be drawn over to a
85 greater or less extent and thus aid in the substantial concealment of the entire mass of thread beneath the edge.

The seam of this invention may be made by hand, but it is particularly designed to be made by a lock stitch sewing machine
90 having a curved needle such, for example, as illustrated in an application for straight-away blind stitch sewing machine filed by me January 20th, 1915, Serial No. 3403.

In the drawings, referring first to the
95 form of seam shown in Fig. 1, the base layer 1 has superimposed upon it the layer 2 having its edge 3 inturned in a manner common in ordinary felling work in the construction of a coat or dress. In making this preferred
100 form of seam two threads are employed which may be described as a needle thread 4 and a bobbin thread 5, although so far as the seam structure is concerned it is immaterial
105 what designation be given these threads or by what particular instrumentality they may be placed in position in the work. In the drawings the needle thread is indicated as being manipulated by a curved eye-pointed
110 needle 6, but this is not essential to the seam

structure and is illustrated simply because the seam is preferably made by a machine having a curved needle as illustrated in the aforesaid application. The bobbin thread 5 may be inserted by means of the familiar type of rotary hook and inclosed bobbin and bobbin case, such as illustrated in the aforesaid application, but any suitable instrumentality may also be used for manipulating this thread. The seam illustrated is shown as beginning at the lower end of the figure. When thus constructed the needle enters the base layer at a point 7 on the upper surface of the base layer beneath the superimposed layer, passes thence through the base layer between the surfaces thereof, out of the upper surface of the base layer at the point 8, and then immediately into the surface of the superimposed layer superjacent the base layer, and then passes through the superimposed layer and out of the superimposed layer at a point 9 at or under the edge, or beneath the upper surface of the superimposed layer. The needle is then retracted throwing out a loop 10 and the bobbin thread 5 is passed therethrough forming a loop 11 interlocked with the loop 10 and by the tension, in the form shown, this interlocking point is drawn back into the superimposed layer. A relative feeding movement between the needle and the work is then given and the needle then without entering the base layer enters the surface of the superimposed layer superjacent the base layer at a point 12 similarly located with respect to the work as is the point 8 and then passes through the superimposed layer and emerges at a point 13 similarly located in the superimposed layer to the point 9. The needle retracts throwing out a loop which is again entered by the bobbin thread, the locking point is drawn back into the fabric and then the operation is repeated in the same sequence. It will thus be seen that at every other stitch the base layer is caught by the needle thread while at the alternating stitches, the base layer is not caught, and all the stitches, as to the embedded portion of the thread in the superimposed layer, have a similar relation with respect to the work.

A similar seam is shown in Fig. 2 wherein the base layer 1 and the superimposed layer 2 are united by a similar pair of interlocked threads, but in this case the stitches are all of the form first described and illustrated in Fig. 1; that is to say in each stitch the base layer is caught by the needle thread.

The illustration of these two forms of seam serves to show that the invention in its broader aspects is not restricted to the particular stitches which shall enter the base layer. In both forms the embedded portions of the thread at regular intervals enter the base layer. In the form shown in Fig. 1 these intervals are alternating and at the in-

termediate intervals the embedded portion of the thread does not extend into the base layer.

The seam is best made, as pointed out, by a curved needle and also by elevating and pressing back somewhat the superimposed layer at the time the curved needle makes its passage into the work, as shown at the upper end of Fig. 1. On the right side of the fabric no thread appears because the needle in its thrusts at no time, if the fabric is of sufficient thickness, extends through the right side of the work. On the side of the work upon which the superimposed layer rests the threads are also concealed mainly by reason of the construction of the seam in which the points at which the needle enters and emerges from the work are both at or near the edge and preferably well beneath the upper surface of the superimposed layer, and when possible well beneath the edge, and secondly by reason of the fact that when the threads are drawn up snug the edge of the superimposed layer is drawn over to a greater or less extent thus serving to cover and conceal the mass of threads. The needle is preferably manipulated as by the machine of the application hereinbefore referred to in a plane at an angle to the vertical, and is maintained at each stitch in the same relation with respect to the edge, and preferably also the position of the needle with respect to the edge is such that the needle enters at points which are farther back in from the line of the edge than are the points at which it emerges, thus carrying the needle thread well back under the edge and enabling the bobbin thread to be drawn in beneath the edge.

As already stated the loops which are shown as lain by the curved needle are shown as concatenated by means of a separate or bobbin thread, but the invention in its broader aspects is not to be restricted to the use of two separate threads and the bobbin thread is illustrated as one and the preferred means for concatenating the loops of the needle thread.

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

1. A seam for sewed articles comprising a main layer of fabric; a superimposed layer presenting an edge thereon; the said layers being fastened together by stitches comprising a thread presenting a single row of loops and means for concatenating said loops; the embedded portions of said stitches at regular intervals extending from a point on the upper surface of the base layer beneath the superimposed layer, through the base layer between the surfaces thereof, out of the upper surface, into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point be-

neath the upper surface thereof, whereby a concealed thread blind stitch seam is presented, the successive stitches of which have portions of the thread embedded in the superimposed layer all in the same relation to the edge thereof.

2. A seam for sewed articles comprising a main layer of fabric; a superimposed layer presenting an inturned edge thereon, the said layers being fastened together by stitches comprising a thread presenting a single row of loops and means for concatenating said loops; the embedded portions of said stitches at regular intervals extending from a point on the upper surface of the base layer beneath the superimposed layer, through the base layer between the surfaces thereof, out of the upper surface, into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point beneath the upper surface thereof; whereby a concealed thread blind stitch seam is presented, the successive stitches of which have portions of the thread embedded in the superimposed layer all in the same relation to the edge thereof.

3. A seam for sewed articles comprising a main layer of fabric; a superimposed layer presenting an inturned edge thereon; the said layers being fastened together by stitches comprising a thread presenting a single row of loops and a second thread passing successively through and locking said loops; the embedded portions of said stitches at regular intervals extending from a point on the upper surface of the base layer beneath the superimposed layer, through the base layer between the surfaces thereof, out of the upper surface, into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point beneath the upper surface thereof; whereby a concealed thread blind stitch seam is presented, the successive stitches of which have portions of the thread embedded in the superimposed layer all in the same relation to the edge thereof.

4. A seam for sewed articles comprising a main layer of fabric; a superimposed layer presenting an inturned edge thereon; the said layers being fastened together by stitches comprising a thread presenting a single row of loops and a second thread presenting a single row of complementary loops respectively engaged with the loops of the first thread; the embedded portions of said stitches at regular intervals extending from a point on the upper surface of the base layer beneath the superimposed layer, through the base layer between the surfaces thereof, out of the upper surface, into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point beneath the upper surface thereof;

whereby a concealed thread blind stitch seam is presented, the successive stitches of which have portions of the thread embedded in the superimposed layer all in the same relation to the edge thereof.

5. A seam for sewed articles comprising a main layer of fabric; a superimposed layer presenting an edge thereon; the said layers being fastened together by stitches comprising a thread presenting a single row of loops and means for concatenating said loops; the embedded portions of said stitches at regular intervals extending from a point on the upper surface of the base layer beneath the superimposed layer, through the base layer between the surfaces thereof, out of the upper surface, into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point beneath the upper surface thereof; and at intermediate intervals extending into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point beneath the upper surface thereof, whereby a concealed thread blind stitch seam is presented, the successive stitches of which have portions of the thread embedded in the superimposed layer all in the same relation to the edge thereof.

6. A seam for sewed articles comprising a main layer of fabric; a superimposed layer presenting an inturned edge thereon; the said layers being fastened together by stitches comprising a thread presenting a single row of loops and means for concatenating said loops; the embedded portions of said stitches at regular intervals extending from a point on the upper surface of the base layer beneath the superimposed layer, through the base layer between the surfaces thereof, out of the upper surface, into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point beneath the upper surface thereof; and at intermediate intervals extending into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point beneath the upper surface thereof, whereby a concealed thread blind stitch seam is presented, the successive stitches of which have portions of the thread embedded in the superimposed layer all in the same relation to the edge thereof.

7. A seam for sewed articles comprising a main layer of fabric; a superimposed layer presenting an inturned edge thereon; the said layers being fastened together by stitches comprising a thread presenting a single row of loops and a second thread passing successively through and locking said loops; the embedded portions of said stitches at regular intervals extending from a point on the upper surface of the base layer beneath the superimposed layer,

through the base layer between the surfaces thereof, out of the upper surface, into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point beneath the upper surface thereof; and at intermediate intervals extending into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point beneath the upper surface thereof; whereby a concealed thread blind stitch seam is presented, the successive stitches of which have portions of the thread embedded in the superimposed layer all in the same relation to the edge thereof.

8. A seam for sewed articles comprising a main layer of fabric; a superimposed layer presenting an inturned edge thereon; the said layers being fastened together by stitches comprising a thread presenting a single row of loops and a second thread presenting a single row of complemental loops respectively engaged with the loops of the first thread; the embedded portions of said stitches at regular intervals extending from a point on the upper surface of the base layer beneath the superimposed layer, through the base layer between the surfaces thereof, out of the upper surface, into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point beneath the upper surface thereof; and at intermediate intervals extending into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point beneath the upper surface thereof, whereby a concealed thread blind stitch seam is presented, the successive stitches of which have portions of the thread embedded in the superimposed layer all in the same relation to the edge thereof.

9. A seam for sewed articles comprising a main layer of fabric; a superimposed layer presenting an edge thereon; the said layers being fastened together by stitches com-

prising a thread presenting a single row of loops and means for concatenating said loops; the embedded portions of said stitches at regular intervals extending from a point on the upper surface of the base layer beneath the superimposed layer, through the base layer between the surfaces thereof, out of the upper surface, into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point at or near the edge thereof, whereby a blind stitch seam is presented, the successive stitches of which have portions of the thread embedded in the superimposed layer all in the same relation to the edge thereof.

10. A seam for sewed articles comprising a main layer of fabric; a superimposed layer presenting an edge thereon; the said layers being fastened together by stitches comprising a thread presenting a single row of loops and means for concatenating said loops; the embedded portions of said stitches at regular intervals extending from a point on the upper surface of the base layer beneath the superimposed layer; through the base layer between the surfaces thereof, out of the upper surface, into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point at or near the edge thereof; and at intermediate intervals extending into the surface of the superimposed layer superjacent the base layer, and out of the superimposed layer at a point at or near the edge thereof, whereby a blind stitch seam is presented, the successive stitches of which have portions of the thread embedded in the superimposed layer all in the same relation to the edge thereof.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

THOMAS J. HAYES.

Witnesses:

NATHAN HEARD,

THOMAS J. DRUMMOND.