

UNITED STATES PATENT OFFICE.

WOLF ARBETTER, OF CHELSEA, MASSACHUSETTS, ASSIGNOR TO ARBETTER FELLING MACHINE COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

SEAM FOR SEWED ARTICLES.

No. 894,567.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed December 4, 1907. Serial No. 405,052.

To all whom it may concern:

Be it known that I, WOLF ARBETTER, a citizen of the United States, residing at Chelsea, in the county of Suffolk and 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 letters on the drawing representing like parts.

This invention relates to a seam for sewed articles designed to be made by machine, and more particularly for use in what is known as "padding" work, wherein two or more layers of superimposed fabric are united by blind stitches.

Padding work is required to a large extent in the manufacture of men's and women's garments. It is desirable to secure a wide seam that shall bind two or more layers of fabric together firmly without showing on the exposed surface of the garment. The rows of stitching are made close together over considerable surfaces and hence a seam which can be made rapidly is desirable.

The nature of the seam will appear more fully from the accompanying description and drawings and will be particularly pointed out in the claims.

The drawings illustrate preferred forms of the seam both as applied to padding and similar work and as applied to felling.

Figure 1 is a view in perspective showing the preferred form of seam; Fig. 2 is a detail view in cross-section of a portion of the seam; Fig. 3 is a view in perspective of the preferred form of seam applied to felling.

The seam herein illustrated is one designed to be made by machine, comprising two needles each carrying a thread and a single thread-carrying looper cooperating alternately with the needles to interlock its thread with the threads of the needles. Since the subject matter of this invention resides in the seam itself and not in the machine it is unnecessary here to describe the particular instrumentalities employed. For a better understanding of the nature of the seam, however, it may be stated that the machine for making the seam comprises a vertically yielding work-support upon which the work is laid; a presser-foot holding the work against the work-support and provided with a transverse opening therein; a vertically reciprocating bender mounted in and independently of

the work-support and operated to project the material at each stitch upward in a bend through the opening in the presser-foot; a stitch-frame mounted above the work-support; two curved needles oscillated about horizontal axes to pass into and out of the material projected through the presser-foot by the bender, and operated in substantially parallel paths and in alternation by suitable mechanism, the said mechanism being arranged to secure a dwell in the operation of the two needles at the time the point of one needle has withdrawn from the material and the point of the other needle has not yet entered the material in order that the feed of the material may take place during this dwell; a thread-carrying looper, such as a revolving hook and contained bobbin, mounted in the stitch-frame and making two complete rotations to each reciprocation of one of the needles whereby its hook cooperates at each revolution alternately with one or the other of the needles. A suitable feed mechanism, take-up, and other cooperating devices are of course provided.

One form of the seam of this invention may also be made by a machine similar to that described wherein the needles move in paths slightly converging toward the looper so that the embedded stitches will converge slightly toward each other and the hook of the looper may more readily cooperate with both needles.

Such a machine, as above described, enables the seam to be made with great rapidity and produces a seam structure of desired width and binding effect.

When the seam is to be used for felling, for which it is adapted although not preferred, guiding devices must be provided for guiding the edge, inturned or plain, of the superimposed layer or layers, and the needle penetrating the superimposed layer or layers may be set to penetrate or not the bottom layer as may be desired.

The preferred form of seam illustrated in Fig. 1 of the drawings is shown as uniting two layers of fabric, A and B. One needle thread is indicated at D and lies on the upper face of the fabric in a continuous line, and is formed at intervals into loops *d* which pass down through the upper layer and partially through the bottom layer. The other needle thread is indicated at E and lies on the upper face of the fabric in a continuous line

parallel to the thread D, and is similarly formed at intervals into loops *e*, which pass down through the upper layer and partially through the bottom layer. The loops *d* of the thread D alternate longitudinally of the seam with the loops *e* of the thread E.

The third or looper thread F extends in a zig-zag course from one side of the seam to the other, and is interlocked alternately with the loops *d* and *e*. The interlocked loops of the thread F and the thread D and the interlocked loops of the thread F and the thread E form stitches embedded in the superimposed layers of fabric, and these stitches enter and emerge from the upper face of the material. In making the seam thus described wherein the needles operate in parallel paths, it will be seen that the loops *d* and *e* will lie to one side or the other of the threads D, E, according as the point of the needle happens to push the threads D, E, to one side or the other. To insure the symmetrical character of the seam and prevent the points of the needles from striking the threads D, E, the embedded stitches may be arranged slightly converging, as indicated at *e'*, *d'*. This type of seam may also be employed for felling work where the edge of a superimposed layer or layers of material are attached to a base layer. When so used one of the needle threads and shuttle thread appear on the top of the fabric, but the second needle thread is laid close alongside of the edge of the upper layer and is practically concealed thereby in the completed seam.

The felling seam is illustrated in Fig. 3 wherein B represents a main layer of fabric and A a superimposed layer, the edge *a* of which is to be felled to the base layer B. The seam is constructed exactly as described, save that one thread D lies along the top of the upper layer, while the other thread E lies on the top of the main or base layer and close up to the edge *a*, while the third or looper thread F extends over the edge *a*.

A machine suitable for producing the seam made the subject of this patent is made the subject of my application Serial No. 436,224, filed June 2d, 1908.

Having 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, one or more superimposed layers of fabric, a thread lying on the face of the fabric and presenting at intervals loops embedded in the layers of fabric, a second thread lying on the face of the fabric parallel with the first thread and presenting at intervals alternating with those of the first thread loops embedded in the layers of fabric, and a third thread lying on the face of the fabric presenting loops interlocked alternately with the loops of said first and second threads, the interlocked loops in each case forming blind stitches or stitches entering and emerging at the face of the fabric.

2. A seam for sewed articles comprising a main layer of fabric, one or more superimposed layers of fabric, a thread lying on the face of the fabric and presenting at intervals loops embedded in the layers of fabric, a second thread lying on the face of the fabric parallel with the first thread and presenting at intervals alternating with those of the first thread loops embedded in the layers of fabric, and a third thread lying on the face of the fabric presenting loops interlocked alternately with the loops of said first and second threads, the interlocked loops in each case forming blind stitches or stitches entering and emerging at the face of the fabric, said blind stitches lying substantially in the direction of the seam.

3. A seam for sewed articles comprising a main layer of fabric, one or more superimposed layers of fabric, a thread lying on the face of the fabric and presenting at intervals loops embedded in the layers of fabric, a second thread lying on the face of the fabric parallel with the first thread and presenting at intervals alternating with those of the first thread loops embedded in the layers of fabric, and a third thread lying on the face of the fabric presenting loops interlocked alternately with the loops of said first and second threads, the interlocked loops in each case forming blind stitches or stitches entering and emerging at the face of the fabric, said blind stitches lying substantially in the direction of the seam and converging slightly.

4. A seam for sewed articles comprising a main layer of fabric, one or more superimposed layers of fabric presenting an edge on the main layer, a thread lying on the face of the superimposed layer and presenting at intervals loops embedded in the fabric, a second thread lying on the face of the main layer of fabric close to the edge of the superimposed layer and parallel with the first thread and presenting at intervals alternating with those of the first thread loops embedded in the fabric, and a third thread lying on the face of the superimposed layer and extending over the edge thereof and presenting loops interlocked alternately with the loops of said first and second threads, the interlocked loops in each case forming blind stitches or stitches entering and emerging at the face of the fabric.

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

WOLF ARBETTER.

Witnesses:

THOMAS J. DRUMMOND,
NATHAN HEARD