

No. 844,320.

PATENTED FEB. 19, 1907.

S. BORTON.
SEAM.

APPLICATION FILED MAY 28, 1903.

Fig. 1.

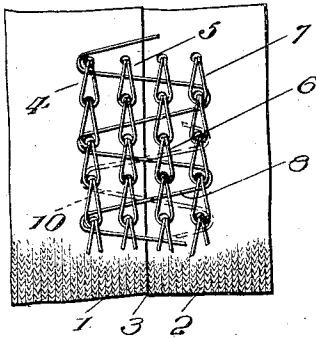


Fig. 2.

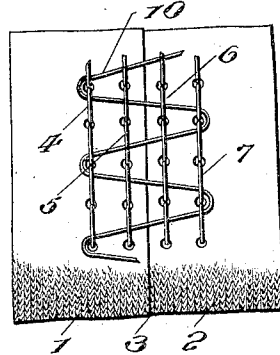


Fig. 3.

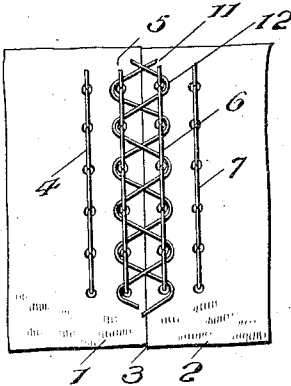


Fig. 4.

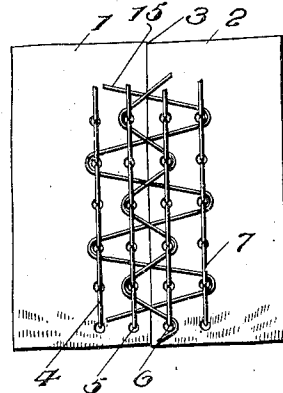


Fig. 5.

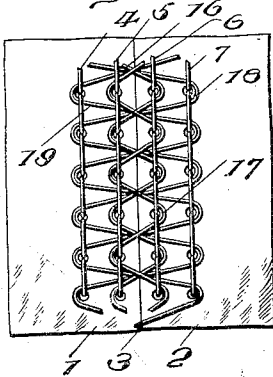
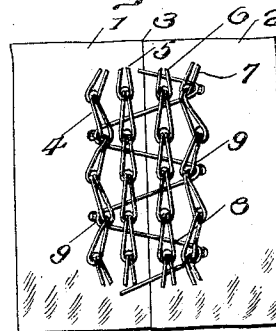


Fig. 6.



Witness.

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STOCKTON BORTON, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO WILL-COX & GIBBS SEWING MACHINE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SEAM.

No. 844,320.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed May 28, 1903. Serial No. 159,174.

To all whom it may concern:

Be it known that I, STOCKTON BORTON, of Providence, Rhode Island, have invented a new and useful Improvement in Seams, which invention is fully set forth in the following specification.

My invention is an improved seam particularly adapted for joining together the edges of cut knit goods. It may also be used to advantage with other kinds of fabrics and for ornamental purposes. Knit goods when cut give a rough raw edge with short kinked and twisted projecting threads. In joining two such edges by flat seams, such as heretofore commonly used, and particularly those made by a single operation, great difficulty has been experienced in the effort to confine, hold down, cover, or secure all of the thread ends, the object being to prevent them from sticking up, and thereby detracting from the smoothness and appearance of the finished seam. A very few thread ends projecting at intervals will seriously mar the appearance of an entire seam.

My present object is to provide a seam which will overcome these difficulties, possessing also other advantages as to strength, appearance, and durability.

In the accompanying drawings I have illustrated several forms of my improved seam:

Figures 1 and 6 represent the appearance of the several seams on one side (for purposes of description designated the "upper side") of the goods. Figs. 2, 3, 4, and 5 represent the appearance of the several seams, respectively, on the other side (for purposes of description designated the "under side") of the goods.

In the drawings, 1 and 2 are two pieces of fabric or portions of a single piece of fabric—such, for example, as cut knit goods—the opposing or abutting edges of which are brought together along line 3, which is the line of division or separation between the opposing edges.

4, 5, 6, and 7 are four parallel or approximately parallel rows of stitches, stitches 4 and 5 being formed in the fabric 1 on one side of the line 3 and stitches 6 and 7 in fabric 2 on the other side of said line.

Chain-stitches are shown in the drawings

appearing on the upper side of the goods, Figs. 1 and 6, as a succession of loops, each passing upwardly through its next preceding loop and on the under side of the goods, Figs. 2 to 5, as a single thread passing from one needle-hole to the next; but any suitable form of stitch may be used—as, for example, the ordinary lock-stitch or the Grover and Baker stitch.

Referring to Fig. 1, 8 is a cross-thread passing alternately from one outside line of stitches (4 or 7) to the other outside line of stitches, (7 or 4.) It passes under the loops of each stitch of all four approximately parallel lines of stitching, as well as around every other loop of the two outside lines (4 and 7) at the point where said loop emerges from the fabric. In Fig. 6 the cross-thread 8 runs back and forth from one outside line of stitches to the other in the same manner, but is drawn sufficiently tight to pull the interlaced ends of the loops first at one edge of the seam and then at the other over toward the center of the seam, as at 9 9, for example, giving the seam a zigzag appearance.

Referring to Fig. 2, 10 is a cross-thread on the under side of the goods passing alternately from one outside line of stitches (4 or 7) to the other and under each stitch of all four lines of stitching, as clearly shown. The preferred disposition of thread 10 with relation to thread 7 on the other side of the fabric is shown by the dotted-line illustration of thread 10 in Fig. 1.

In Fig. 3, showing the appearance on the under side of the goods of another form of the seam, 11 and 12 are two cross-threads, each passing alternately, but in an opposite direction to the other from one inside line of stitches (5 or 6) to the other inside line of stitches. Both cross-threads pass under each stitch of the two inside lines of stitches and cross each other at the line (3) of the two abutting edges of the fabric.

In another form shown in Fig. 4 the seam on the under side of the goods is the same as in Fig. 3, except that one of the two cross-threads 15 instead of passing from one inside line of stitches to the other passes back and forth between the outside lines of stitches 4 and 7, passing under all of the stitches of each of the four lines of stitching, as clearly shown.

In still another form shown in Fig. 5 the seam has four cross-threads on the under side of the goods, two 16 and 17 passing back and forth from one inside line of stitching (5 or 6) to the other in the same manner as threads 11 and 12 of Fig. 3, and two 18 and 19 passing back and forth, each in the opposite direction to the other, from one outside line of stitching (4 or 7) to the other, said threads 18 and 19 passing under cross-threads 16 and 17 and crossing each other at about the line of the abutting edges of the fabric. Each thread 18 and 19 passes under each stitch of all four lines of stitching.

In my improved seam the two inside lines of stitching may be placed very near to the edges of the goods to be joined, there being little if any transverse strain or pull thereon. They serve principally to secure and hold down the cross-threads as well as to catch and securely hold down thread ends which may project from the edges of the fabric. The outside lines of stitching are located farther back from the edges, where there is no danger of their pulling out through and tearing the edges of the goods when subjected to strain or pull in a transverse direction. They are therefore made to serve principally to resist any transverse pull or strain tending to separate the joined edges. The cross-threads on both sides of the goods also serve to catch and secure or hold down projecting thread ends, as well as to firmly hold the two edges together and resist any transverse strain or pull tending to separate the same; but this latter function is served principally by the cross thread or threads which pass from one outside line of stitching to the other, either on one or both sides of the goods. In the preferred form of my seam, therefore, I employ a cross-thread or cross-threads on one or both sides of the goods extending between the outside lines of stitching. More than four lines of stitches may, if desired, be used.

As will be apparent, my invention is capable of many embodiments other than those particularly shown and described. Furthermore, while my improved seam is particularly adapted for joining together two edges of goods it may obviously be used for other purposes.

The seam constituting my invention is preferably made by a machine of suitable construction having four needles for forming the parallel lines of stitches and thread-carriers for placing the cross-threads; but the seam may be made by hand or in any other suitable way.

When more than four lines of stitches are used, a corresponding number of needles will be employed. For example, a seam comprising four lines of stitches within my invention may also have a fifth line of stitches formed between the two pieces of fabric along the line 3, Fig. 1.

What I claim is--

1. In a seam, the combination with fabric, of four approximately parallel lines of stitches, two cross-threads on one side of the fabric one connecting the outside lines of stitches and the other, the inside lines of stitches, and a cross-thread connecting two of the lines of stitches on the other side of the fabric.

2. In a seam, the combination with fabric, of four approximately parallel lines of stitches, and two cross-threads one connecting the outside line of stitches on each side of the fabric, and a cross-thread connecting the inside lines of stitches on one side of the fabric.

3. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, a cross-thread connecting the outside lines of stitches on one side of the fabric and a cross-thread on the other side of the fabric connecting the two lines of stitches on opposite sides of the line of abutment.

4. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, a cross-thread on one side of the fabric connecting the outside lines of stitches and passing under the inside lines of stitches, and a cross-thread on the other side of the fabric connecting two lines of stitches on opposite sides of the line of abutment.

5. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, and two cross-threads one on each side of the fabric connecting the outside lines of stitches and passing under the inside lines of stitches.

6. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, a cross-thread on one side of the fabric connecting the outside lines of stitches and passing under each stitch of all four lines of stitches, and a cross-thread on the other side of the fabric connecting two lines of stitches on opposite sides of the line of abutment.

7. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches and passing through the fabric two on each side of the line of division, and two cross-threads one on each side of the fabric connecting the outside lines of stitches and passing under each stitch of all four lines of stitches.

8. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing

through the fabric two on each side of the line of division, and a cross-thread connecting the outside lines of stitches on one side of the fabric and drawing the same in toward the inside lines of stitches at the points where it passes around said outside lines of stitches.

9. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, and a cross-thread on one side of the fabric passing under the inside lines of stitches and connecting the outside lines of stitches and drawing the same in toward the inside lines of stitches at the points where it passes around said outside lines of stitches.

10. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, a cross-thread on one side of the fabric passing under the inside lines of

stitches and connecting the outside lines of stitches and drawing the same in toward the inside lines of stitches at the points where it passes around said outside lines of stitches, and a cross-thread on the other side of the fabric connecting two lines of stitches on opposite sides of the line of abutment.

11. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, and a cross-thread connecting the outside lines of stitches and passing under the inside lines of stitches on one side of the fabric.

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

STOCKTON BORTON.

Witnesses:

JOHN A. KING,
ALICE M. HENTZ.