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LABEL ATTACHING SEAM

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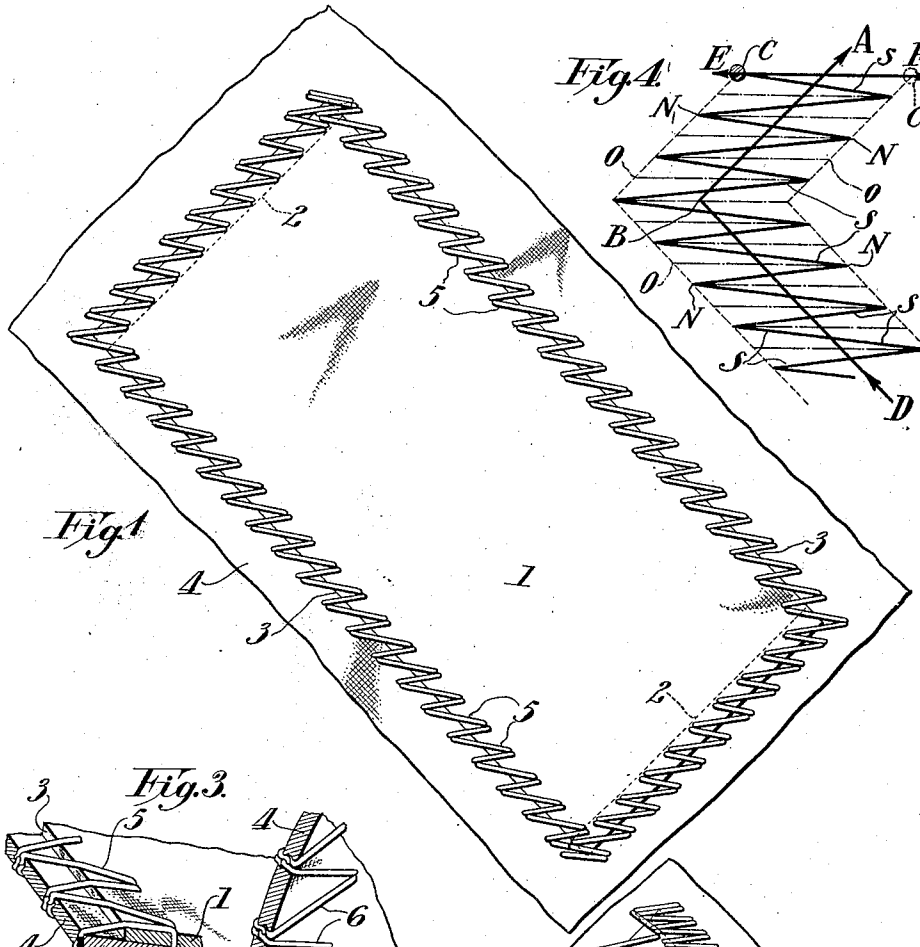


Fig. 1

Fig. 4

Fig. 3

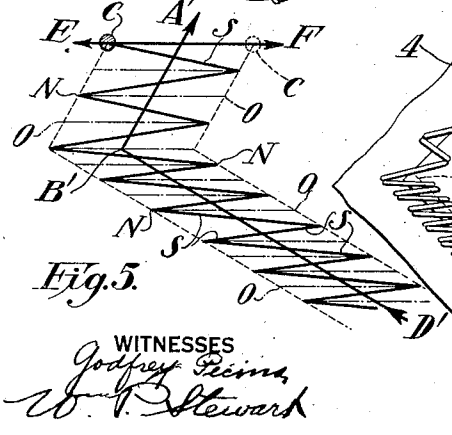


Fig. 5

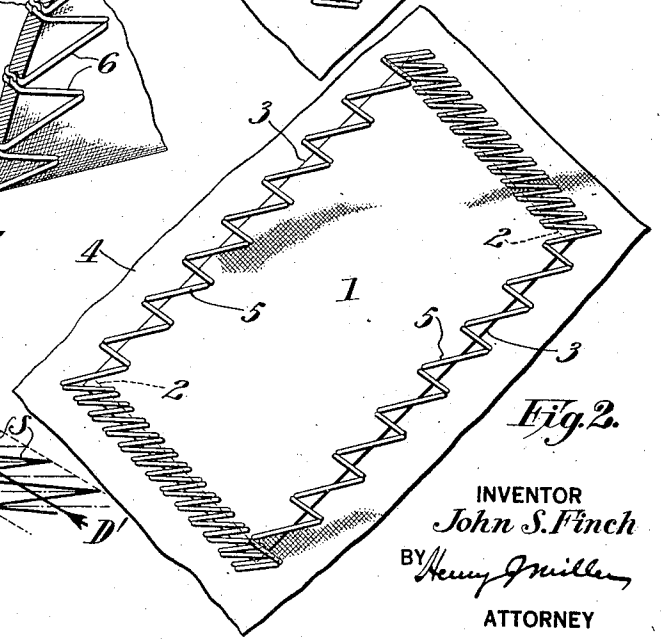


Fig. 2

WITNESSES

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UNITED STATES PATENT OFFICE.

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LABEL-ATTACHING SEAM.

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This invention relates to improvements in the attaching of labels and similar articles to body materials by means of sewing machines and has for its primary object to facilitate the handling of the work in the overseaming of the intersecting label-margins and to enhance the sightliness of the product.

In attaching labels to body materials by means of a sewing machine it has been a common practice to overseam the label-ends only, or to secure the sides of the label by straight-away stitches and to overseam the ends thereof. To overseam the intersecting sides of a label on an ordinary zigzag-stitch sewing machine, it would be necessary to turn the work at each of the intersecting points of the label margins, as will be self-evident, due to the fact that the needle or the work is caused to vibrate in a line at a right-angle to the line of feed of the work. This is manifestly a cumbersome operation and would be particularly so in an automatic label-attaching machine.

In accordance with the present invention, there may be employed a stitch-forming mechanism of any well known type of zigzag-stitch sewing machine in which a reciprocating needle and the work are relatively shifted in a fixed path to produce overseaming stitches. The work, comprising a label and the body material to which it is to be attached, are advanced past the needle in the direction of a label margin to be overseamed, which label margin is disposed at an acute angle with respect to the fixed path referred to, and then the succeeding label margins are advanced past the needle in like manner by successively changing the direction of feed to the directions of the margins to be overseamed. By feeding the work in this manner, the resulting overseaming stitches are so formed that straight lines passing through the joining point of adjacent stitches on one label margin and bisecting a straight line connecting the opposite ends of the same stitches are parallel with similar lines of adjacent stitches on an intersecting label margin. Furthermore, the stitches along each label margin are alternately long and short and form a seam of uniform width throughout said margin. By overseaming the label margins in this manner it is unnecessary to turn the work at the label corners and the stitching may be continued from one label margin to another by merely changing the direction of feed. A preferred inclination of the label margin with respect to the plane of needle-vibration is a 45° angle, whereby the resulting overseam has a substantially uniform appearance on all four sides of the label, but of course the degree of inclination of the overseam may be varied according to the nature of the work and the appearance desired. A still greater variation in the seam appearance may be obtained by changing the extent of feed of the work between stitches to space the stitches differently along different sides of the label.

In the accompanying drawings, Fig. 1 is a top plan view of a label attached to a body material by overseam stitches formed according to the present improved method. Fig. 2 is a similar view, but with the stitches closely grouped along the label ends and more widely spaced along the sides of the label. Fig. 3 is an enlarged perspective view, partly in section, of a portion of the seam of Fig. 1. Figs. 4 and 5 are diagrammatic views illustrating the formation of differently angled seams.

Referring to the drawings, a rectangular label 1 usually having folded-under ends, as 2, and selved sides 3 is attached to a body material 4 by zigzag or overseaming stitches of common construction formed by interlocking a needle-thread 5 and an under-thread 6. Any stitch-forming mechanism of the well known types of zigzag-stitch sewing machines may be employed, it being very common in sewing machines to laterally vibrate a reciprocating needle in a fixed path relatively to the work or to vibrate the work in a fixed path relatively to a reciprocating needle to effect the formation of zigzag stitches. The feature of the present invention resides in advancing the work past the needle in the direction of a label-margin which is disposed at an acute angle with respect to the fixed path of, for instance, needle vibration. In Fig. 4 of the accompanying drawings, there is shown a diagrammatic view illustrating the method of forming overseaming stitches across straight lines A—B and B—D, representing label-margins, intersecting at right angles and wherein said lines are disposed at an angle of 45° with respect to the line E—F representing the fixed path of vibration of the needle C or of the work. It will be observed that as

a result of this method the stitches are alternately relatively long and short on each seam line and that said stitches cross both the lines A—B and B—D, notwithstanding the fact that said lines intersect at right angles. This effect is obtained by successively feeding the work in the directions indicated by the arrows on the lines A—B and B—D, thereby producing stitches having a uniformity of angular relationship not attained by the methods heretofore practised.

A feature of the improved attaching seam is that straight lines O—N passing through the common needle-punctures N of adjacent stitches S and bisecting at O a straight line through the opposite ends of the same stitches will be parallel on both seam-lines A—B and B—D, and this regardless of the selected acute-angle of feed or the angle of intersection of the straight feed-lines.

The illustration in Fig. 5 differs from that of Fig. 4 in that the feed line A′—B′ is disposed at an angle of 60° with respect to the line E—F of needle vibration, while the line B′—D′ is disposed at an angle of 30° thereto. It will be observed, however, that as in Fig. 4, the lines O—N of Fig. 5 are all parallel to each other, that the stitches are alternately relatively long and short on each seam-line and that the component stitches of each margin form a seam of uniform width.

The angular relationship of the stitches with respect to the label-margins depends not only upon the angular relationship of the lines A—B or B—D with respect to the line E—F, but also upon the extent of feed of the work between stitches. This is illustrated in Fig. 2 wherein the stitches are closely grouped along the label ends 2 by a short feed of the work, while along the sides 3 of the label a relatively longer feed is employed. By the combination of selected acute-angles of feed of the work with variations in the extent of feed, labels or similar articles of different outlines may be readily attached to a body material in the present improved manner with pleasing effect and without the cumbersome work-handling heretofore required.

Having thus set forth the nature of the invention, what I claim herein is:—

1. The method of attaching a label and like article to a body-material by label-edge covering stitches, comprising feeding the work in the successive directions of the label-margins, and during said feeding of the work relatively vibrating the work and the stitch-forming mechanism of an overseaming sewing machine at an angle constant with respect to the initial direction of feed of the work throughout the overseaming of the successive label-margins.

2. A label having intersecting margins attached to a body material by an angular seam of zigzag stitches crossing the label-margins, which zigzag stitches along each label-margin are alternately relatively long and short and form a seam of uniform width throughout said margin.

3. A label having intersecting margins attached to a body material by an angular seam of zigzag stitches crossing said margins, in which zigzag stitches straight lines passing through the joining point of adjacent stitches on one label-margin and bisecting a straight line connecting the opposite ends of the same stitches are parallel with similar lines on an intersecting label-margin.

4. A label having intersecting margins attached to a body material by an angular seam of zigzag stitches crossing said margins, which zigzag stitches along each label-margin are alternately relatively long and short and form a seam of uniform width throughout said margin, the stitches along one label-margin being grouped more closely than on an adjacent margin.

In testimony whereof, I have signed my name to this specification.

JOHN S. FINCH.