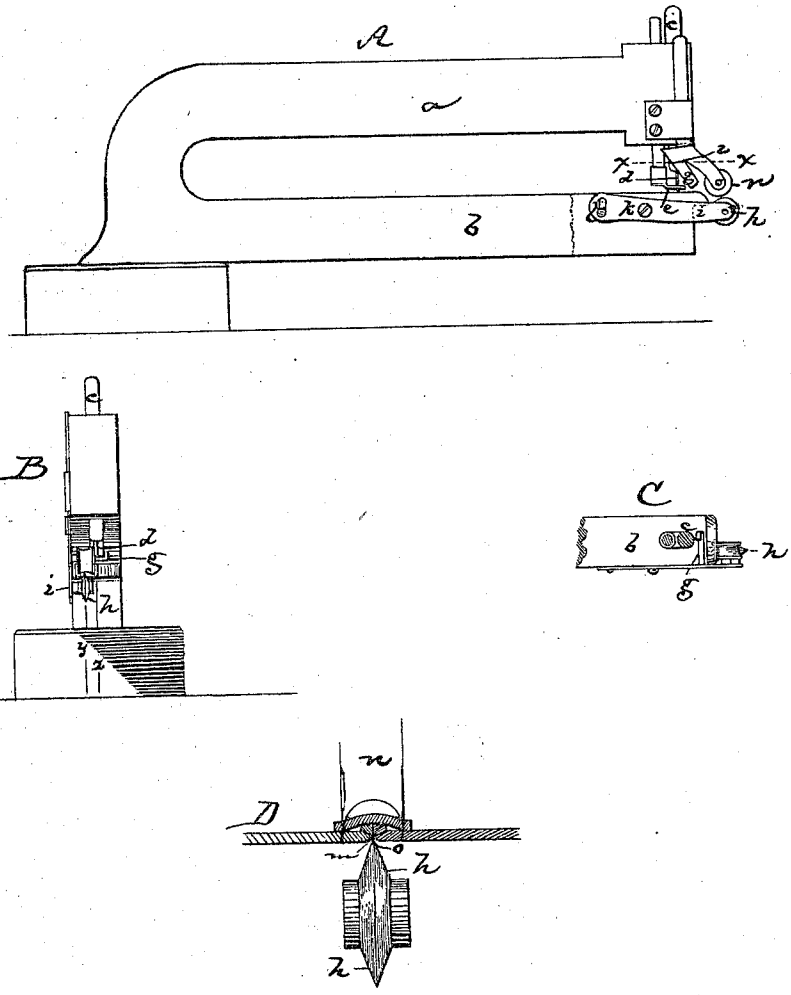
W. BUTTERFIELD.

Sewing-Machine.

No. 128,850. Patented July 9, 1872.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM BUTTERFIELD, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 128,850, dated July 9, 1872.

To all whom it may concern:

Be it known that I, WILLIAM BUTTERFIELD, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Sewing-Machines for Attaching Braces to Boot-Legs; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

United States Letters Patent No. 123,316 have been granted to P. West for an improvement in high-legged boots, which improvement consists in closing the side seams by turning the edges of the uppers outward and sewing them through and through and covering the projecting edges of the seam with a brace extending the whole length of the seam, said brace at its opposite edges being stitched to the leg.

My invention relates to a method of guiding the seam of the boot-leg to insure its correct position as respects the laying of the brace over the seam and stitching it to the leg. In attaching the brace with an ordinary machine for side-seaming boot-legs a guiding device is used for correctly guiding the brace; but as the seam to be covered is concealed by the brace, and no device is used to guide the seam, the result is that the parallelism of the edge of the brace and the center line of the seam are not preserved. To remedy this defect, I place in front of the brace-guide a guiding-edge, (made as a disk or edge-roll or as a fixed guide-plate,) said edge being at a distance (laterally) from the path of movement of the needle equal to the distance from the center of the seam to the line of stitches to be inserted in the brace, and its upper surface being in or nearly in the plane of the work-supporting surface, so that, as the under side of the the boot-leg seam rests upon this edge, said seam, in connection with the edge, form guides by which the leg is so fed to the action of the stitch-forming mechanism as to insure the entrance of the stitches in a line or lines parallel with the center of the seam, and as the brace is also guided with relation to the needle the stitches are not only inserted parallel to the center seam, but equidistant from the edge of the brace. In connection with the seam-guiding edge or roll a grooved presser-roll may be used for keeping the seam down to the seam-guiding edge.

The invention consists in the combination, with a stitch-forming mechanism and with the brace-guide, of a seam-guiding device that insures the passage of the boot-leg under the needle in a line parallel to the seam and the formation of the brace-fastening seam parallel to the center seam, as well as equi-distant from the edge of the brace.

The drawing shows enough of the mechanism of a sewing-machine, with my invention added thereto, to enable the improvement to be understood.

A shows the mechanism in side view. B is a front view of the same. C is a sectional plan on the line *x x*.

a denotes the upper or goose-neck arm; *b*, the work-support arm; *c*, the needle-bar; *d*, the needle; and *e*, the presser-foot; *g*, the guide that conducts the brace—all these parts being arranged and operating as before my invention. In front of the end of the work-supporting arm is the guide-roll *h*, said roll being a disk-roll turning on a stud-pin projecting from an arm, *i*, which is fastened to the work-supporting arm *b*, the upper edge of the roll being in or nearly in the plane of the top surface of the work-plate, and the roll being preferably adjustable vertically, for which purpose the arm *i* may be fastened by a pin, *k*, and be adjusted by a screw and slot, *l*. Instead of the roll a stationary vertical plate, with a thin guiding-edge, may be employed, but the roll is preferable. The boot-leg seam (shown at D) leaves an angle, *m*, at the under side, and this angle rests upon the edge *o*, as seen at E, the angle forming a gauge, by means of which the leg is readily guided, although the upper side of the seam is covered by the brace. The distance from the guiding-line *y* to the needle-line *z* is the distance from the center of the seam to the line where the brace is to be united to the leg, and as the guide *g* controls the entrance of the brace to the action of the stitch-forming mechanism and the guide *h*, the entrance of the leg and its seam, the result is that the seam and brace are always kept in proper relative posi-

tion. To facilitate the guiding action of the edge or roll *h* the upper presser-roll *n* may be used, this roll being a grooved roll and acting upon opposite sides of the seam and holding the seam down to the edge-roll.

I claim—

1. The guiding-edge or roll *h*, substantially as described, in combination with the work-support, stay-guide, and stitch-forming mechanism.

2. The presser-roll *n*, in combination with the guiding-edge or roll *h*, substantially as shown and described.

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Witnesses:
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