

(No Model.)

S. BORTON.  
SEWING MACHINE.

No. 525,042.

Patented Aug. 28, 1894.

Fig. 1.

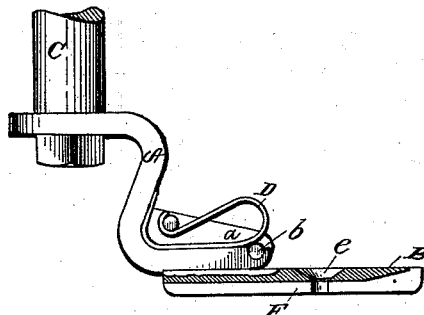


Fig. 2.

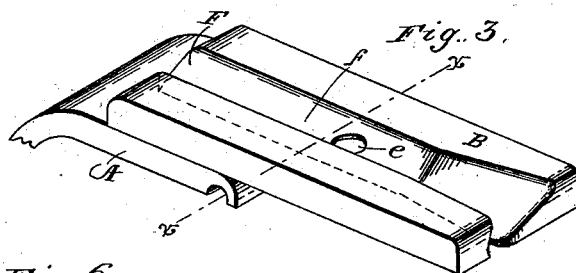


Fig. 6.

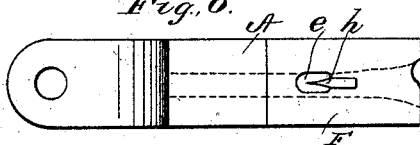


Fig. 4.

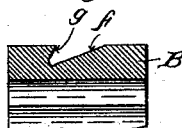
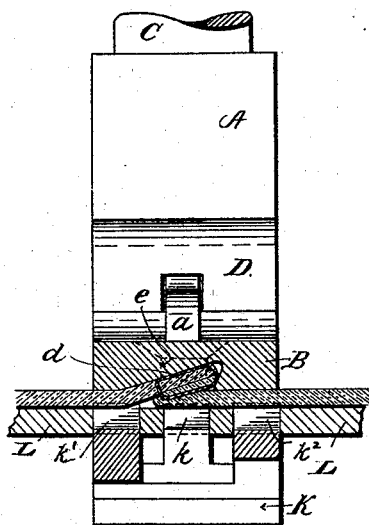


Fig. 5.



WITNESSES

W. R. Edlyn.  
Geo. Lewis.

INVENTOR

Stenton Borton  
by J. C. Adams  
his Attorneys

# UNITED STATES PATENT OFFICE.

STOCKTON BORTON, OF BROOKLYN, ASSIGNOR TO THE WILLCOX & GIBBS  
SEWING MACHINE COMPANY, OF NEW YORK, N. Y.

## SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 525,042, dated August 28, 1894.

Application filed January 6, 1894. Serial No. 495,983. (No model.)

*To all whom it may concern:*

Be it known that I, STOCKTON BORTON, of Brooklyn, New York, have invented a new and useful Improvement in Sewing-Machines, which is fully set forth in the following specification.

This invention relates to the construction of machines adapted to stitch the welt or rib of an overseam to the body of the goods for purposes explained in an application of even date herewith, Serial No. 495,984.

The invention consists mainly in modifying the form of the presser-foot by providing its under side with a groove or recess adapted to receive the extra thickness of fabric at the seam, and to guide the work by means of the shoulder produced by folding down the rim or welt. It also consists in combining such a presser-foot with a feed-dog having three lines of teeth, one opposite the groove or recess, and one on each side thereof.

In the accompanying drawings, which form part of this specification, Figure 1 is a side elevation partly in longitudinal section of a presser-foot constructed in accordance with this invention. Fig. 2, is a front elevation. Fig. 3 is a perspective of the presser-foot reversed. Fig. 4 is a cross-section on line  $x-x$ , Fig. 3, and Fig. 5 is a view partly in vertical section and partly in elevation, showing the foot, the work, the cloth plate and the feed-dog. Fig. 6 is a plan view of the presser-foot of a zig-zag machine having the invention applied thereto.

The presser-foot shown in Figs. 1 to 5 is of a type in common use made in two parts A, B the part A being rigidly attached to the presser bar C and the part B being pivoted to part A at  $b$  and held by the pressure of spring D in a horizontal position.

The part B has a vertical rib or tongue  $a$  which rises between the forked ends of the part A. The construction permits the toe of the presser-foot to tilt upward.

According to the present invention and for the purposes above indicated, the under side of the foot is provided with a longitudinal groove or recess F extending from end to end of the foot *i. e.* in the direction of the feed of the fabric. The groove is ratchet shaped in

cross section, and thus adapted to receive the bulge formed by folding down the welt of an overseam  $d$  as shown in Fig. 5. The groove may be and is as shown slightly undercent, the approximately vertical side extending a little past the needle-hole  $e$ , so that when the shoulder of the welt is against the guiding edge of the groove (lettered  $g$  in Fig. 4) the stitches will pass through the welt. This guiding is effected by the action of the inclined face  $f$  of the groove, the downward pressure of which tends to crowd the goods toward the guiding edge, so that when the work has been properly started the stitches will be accurately placed without any special care on the part of the operator.

To facilitate the introduction of the work under the foot and the rib or welt into the groove, the mouth of the latter is made flaring as shown in Figs. 2 and 3.

For the proper operation of flattening and stitching the welt to the body of the goods it is desirable to employ a feed having three lines of teeth, as shown in Fig. 5. K represents the feed-bar and  $k, k', k^2$  the three rows of teeth or serrations working through suitable openings in the work-plate L. The feed dog  $k$  is opposite the recess or groove of the foot and presses the welt into the same, while the other two feed dogs are opposite the horizontal portions of the foot on each side of the groove.

The invention is not, of course, limited to the exact details of construction and configuration of parts shown in the drawings; but the construction illustrated is deemed the best embodiment of the principle of the invention and has given satisfactory results in practice.

The foot can obviously be so placed on the presser-bar as to bring the line of stitches in any desired position along the welt (the needle hole being made large enough to admit of such adjustment), and the invention can, if desired, be applied to the presser foot of a zig-zag sewing machine, in which the needle-hole is a transverse slot. This form of presser-foot is shown in Fig. 6. The needle hole  $e$ , which intersects the groove F, is sufficiently wide to permit the needle to place stitches on both sides of the finger  $h$  which,

as common in presser-feet used with zig-zag machines, projects part way across the needle hole.

Having now fully described my invention, what I claim is—

1. A sewing machine presser-foot having in its under surface a longitudinal groove or recess of ratchet-shape in cross-section forming a guiding edge, the inclined surface tending to press the goods toward the guiding edge, substantially as described.

2. A sewing-machine presser-foot having in its under surface an undercut groove or recess of ratchet shape in cross-section extending lengthwise of the foot, substantially as described.

3. A sewing machine presser-foot having in

its under surface a groove of ratchet shape in cross section extending lengthwise of the foot, and a needle hole intersecting the groove, the nearly vertical side of the latter being to one side of the needle-hole, substantially as described.

4. A sewing-machine presser-foot having in its under surface ratchet shaped longitudinal groove flaring or widening at the toe of the foot, substantially as described.

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

STOCKTON BORTON.

Witnesses:

CHAS. H. WILLCOX,  
S. A. SWART.