T. P. WEST.

Sewing-Machine Presser-Foot.

No. 202,771. Patented April 23, 1878.

Fig. 1.

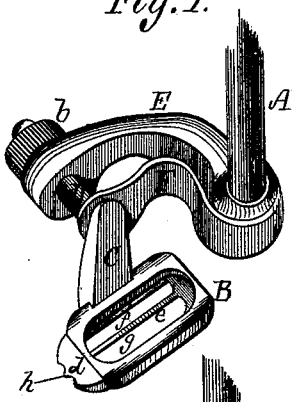


Fig. 3

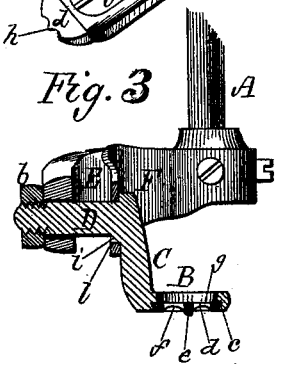
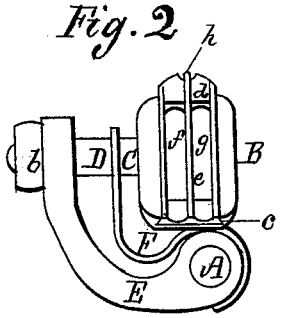


Fig. 2



Witnesses.

Joseph. G. Wall

Louis A Curtis

Inventor.

T. P. West.

G. Curtis. Atty.

UNITED STATES PATENT OFFICE.

THOMAS P. WEST, OF DANVERS, MASSACHUSETTS.

IMPROVEMENT IN SEWING-MACHINE PRESSER-FEET.

Specification forming part of Letters Patent No. **202,771**, dated April 23, 1878; application filed February 4, 1878.

To all whom it may concern:

Be it known that I, THOMAS P. WEST, of Danvers, in the county of Essex and State of Massachusetts, have invented certain Improvements in Presser-Feet of Sewing-Machines, of which the following is a specification:

My invention relates to a sewing-machine presser-foot intended particularly for use in sewing on stays for strengthening seams. For this purpose I have devised a presser-foot which has upon its under side a longitudinal rib or fin, and is adjustable laterally or in a line transverse to the feed. The fin is intended to enter the seam, and thus to compel the goods to travel in a determinate path. The lateral adjustment is for the purpose of varying at pleasure the distance between the seam and the row of stitches laid by the needle.

The drawings accompanying this specification represent, in Figure 1, an isometric view of a presser-foot and its support embodying my improvements, while Fig. 2 is an under-side view, and Fig. 3 a transverse section, of the same.

In these drawings, A represents the presser-foot bar of a sewing-machine, while B represents the presser-foot of such machine, this presser-foot being secured to or constituting the lower part of an arm, C, whose upper end is secured to or makes part of a rock-shaft, D, which in turn is mounted within a bearing in the outer end of a horizontal curved bracket, E, the inner end of such bracket in turn encompassing and being screwed to the lower end of the bar A, and being adjustable vertically upon the latter.

The presser-foot B has a longitudinal groove, *c*, cut in its under side to receive a thin, flat plate, *d*, of steel, and this plate *d* bears upon its under side a shallow longitudinal rib or fin, *e*, which, by resting and traveling in the crease of a seam, compels the seam to assume a uniformly relative position with respect to the needle of the machine, and compel the line of stitching laid by such needle to stand at a uniform distance from or parallel to the seam.

I do not confine myself to the employment of the plate *d*, as it may be dispensed with, and the fin formed directly upon the under side of the foot; but I prefer the plate, as by its employment I am enabled to readily change from one size or style of foot to another, and can harden the fin *e* and adjacent parts to prevent wear, or repair the fin or plate, if necessary. Nor do I confine myself to the arrangement herein shown for supporting the presser-foot with respect to the needle, as this may be varied considerably without losing sight of my invention. The present construction shows my improvements as adapted to a "Howe" sewing-machine.

I create in the presser-foot B, (or the plate *d*, if the latter is employed,) and upon one or both sides of the fin *e*, a channel or opening, *f*, to admit of a passage of the needle, and permit the position of the work to be visible immediately at or near such needle; and by employing two of these openings, one upon each side of the fin, the presser-foot is adapted to operate with machines which carry two needles and simultaneously lay two rows of stitching.

Upon the front end or nose of the presser-foot B, or the plate *d*, as the case may be, I form a pointed spur, *h*, which is disposed in alignment with the fin *e*. By keeping this spur directly over or in a line with the seam the operator is enabled to make sure that the fin *e* will also remain in the seam.

A plate-spring, F, is secured at one end to the inner end of the bracket E, and its other end presses outward against the arm C, and, by exerting its stress against the latter, forces it away from the bracket E, the stress of the spring being resisted, and the position of the arm, and consequently that of the presser-foot with respect to the bracket, being determined by a nut, *b*, screwed upon the outer end of the shaft D and screwing up against the bracket.

It will be seen that by turning the nut *b* in one direction the arm C and the fin *e* of the presser-foot B will be pulled in a direction away from the needle and against the power of the spring F, while by turning the nut in the opposite direction the stress of the spring forces the arm and presser-foot in a reverse direction. Therefore the position of the fin *e* with respect to the needle, and the distance from the seam of the row of stitches laid by the needle, are adjusted or varied at pleasure.

By suspending the presser-foot from a rock-shaft, as stated, such foot will ride over any

irregularities in the seam which otherwise might obstruct the passage of the work, and when the irregularity is passed the foot settles back to its proper place. It is essential that the swinging or rocking motion of the presser-foot shall be permitted in only one direction—that is, forward from its center of vibration; and to determine this movement, in one way in which it may be accomplished, I form upon the outer side of the arm C a spur, *i*, which takes into a slot, *j*, created in the free end of the spring F, (which spring, under the management shown in the drawings, incloses the shaft D,) such slot being concentric with the axis of the shaft, and being of such length as to permit the arm C and presser-foot B to swing in a short arc of a circle forward of the said axis.

The fin or guiding-rib *e* will of itself naturally find and maintain its own position in the crease of a seam, and for this reason unskillful operatives are enabled to execute perfect work, so far as laying a row of stitches parallel to the seam is concerned.

I am aware that presser-feet of sewing-machines have heretofore been provided with a longitudinal channel, to receive and guide a swell or ridge in a stay-piece, which covers and protects the seam upon the opposite side of the material, and with a fin or rib upon each side of this ridge, to travel within grooves created in the stay-piece; but so far as my knowledge extends a presser-foot has not been made with a single fin upon its under side, and so arranged that this fin shall be adjustable in position with respect to the needle of the sewing-machine.

It will be seen that a channel or groove, a^3 a^3, exists in the under side of the presser-foot or the plate *d* upon each side of the fin *e*. These grooves perform the office of producing a swell or rib in the leather upon each side of the seam, and by so doing not only improve the appearance and strength of the latter, but cause the stay-piece upon the seam on the opposite side of the leather or material to lie more nearly flat, and thereby remove the strain from the seam and transfer it to the stay-piece, which is an important object.

Having thus explained the nature and operation of my invention, I claim as my invention, and desire to secure by Letters Patent of the United States, the following:

1. A sewing-machine presser-foot provided with a rib or fin to enter the crease of a seam, and adjustable laterally in a line transverse to the line of feed, substantially as set forth.

2. A sewing-machine presser-foot provided on its under side with a longitudinal central fin or rib, and with grooves, one on each side of said fin, as set forth.

3. The removable plate or slide formed with a longitudinal central fin or rib, and with grooves, one on each side of said fin, in combination with a presser-foot formed to receive said plate, as set forth.

4. The plate grooved and ribbed and provided with longitudinal openings, one on each side of the rib or fin, as set forth.

5. The combination of the presser-foot B, arm C, shaft D, bracket E, spring F, and nut *b*, as set forth.

THOMAS P. WEST.

Witnesses:
F. CURTIS,
L. A. CURTIS.