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EDWIN J. TOOF.

Improvement in Ruffling Attachments for Sewing Machines.

No. 120,173. Patented Oct. 24, 1871.

Fig. 1.

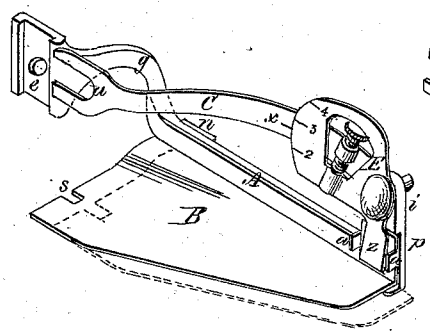


Fig. 2.

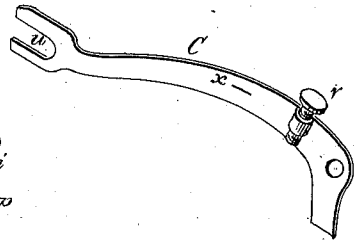


Fig. 3

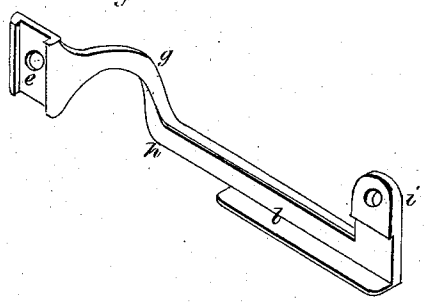


Fig. 4.

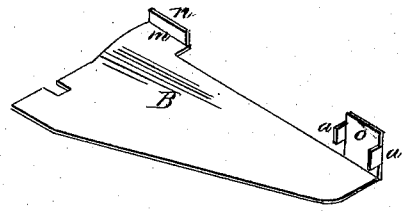


Fig. 5.

Fig. 6.

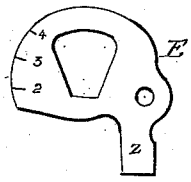
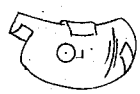


Fig. 7.



Witnesses.

Charles Ph. Kochler
U.C. Hobles

Inventor.

Edwin J. Toof

UNITED STATES PATENT OFFICE.

EDWIN J. TOOF, OF FORT MADISON, IOWA.

IMPROVEMENT IN RUFFLING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 120,173, dated October 24, 1871.

To all whom it may concern:

Be it known that I, EDWIN J. TOOF, of Fort Madison, in the county of Lee and State of Iowa, have invented certain Improvements in Ruffling Attachments for Sewing-Machines, of which the following is a specification:

The nature of my invention consists in the combination of an arm, feed-plate, and lever, constructed, arranged, and operating with relation to each other, as hereinafter described, so that when connected with the presser-bar or foot of a sewing-machine a piece of cloth can be ruffled at a point distant from its edge, and also sewed to any part of another piece of cloth. By this arrangement the skirt of a lady's dress may be trimmed with a series of ruffles of different sizes and gathered at different distances from the edges, and attached to the skirt at different distances from the edge of the skirt, as may be desired.

I will now proceed to describe my invention, having reference in so doing to the accompanying drawing through letters of reference marked thereon and forming a part of this specification, in which—

Figure 1 is a drawing of my invention. Figs. 2, 3, 4, 5, 6, and 7 represent detached portions of my invention.

The same letters indicate like parts in all the figures.

I describe my improvement, which may be made of any suitable material, as being attached to a Singer sewing-machine; yet suitable modifications in the manner of attaching will adapt it to other machines.

A, Fig. 3, is an arm to be connected at *e* with the presser-foot bar of the machine by a screw and extending to the right, as at *g*, Fig. 3, in order that room for extending the cloth or ruffle in that direction may be made. The arm then turns down nearly to the bed-plate of the machine, as at *h*, Fig. 3, leaving the bed-plate unencumbered. The arm then turns up, as at *i*, Fig. 3, to make bearing for the lever C, Fig. 2, to which it is connected by the rivet D, Fig. 5. The arm has a flange, *l*, and is thickened at *i*, Fig. 3, to receive and support the part *o*, Fig. 4, of the feed-plate B, which may be of one piece of metal and of form shown at Fig. 4. It should have a notch in it, that it may pass each side of the needle and barely beyond it, as shown at Fig. 1—*s*, Fig. 1, being the needle orifice in the cloth-plate of the machine. The part about the needle should be thin and smooth, that it may cause as little friction as possible in its movements on the cloth. It may be attached to the horizontal part of the arm A by letting its edge rest on the flange *l*, Fig. 3, and depressing the part *m*, Fig. 4, that it may pass beneath the arm and be turned up on the opposite side, as seen at *n*, Figs. 1 and 4. The part *o* is turned up at right angles with the body of the plate, as seen in Fig. 4, and passes behind the short arm of the lever C, as shown at *p*, Fig. 1, which both holds it in position and gives it motion. The part *o* has two lugs, *a a*, between which the short arm of the lever C and the arm Z of the index device E, Fig. 6, operate, the former to give motion to and the latter to regulate the extent of motion of the feed-plate B. The lever C, formed as shown at Fig. 2, receives its motion from the nut securing the needle, and astride which the part marked *u* passes. Upon the lever C there is a set-screw, *v*, Fig. 2, over which and the short arm of the lever C, and secured by the rivet connecting the lever C to the arm A, is an index device, E, with its arm Z, formed as shown at Fig. 6, by which the movement of the feed-plate B may be regulated. Elevating or depressing the screw correspondingly varies the position of the figures 2, 3, 4 on the index, and also the relative position of the arms operating between the lugs *a a*, causing an increased or diminished movement of the feed-plate B and of the length of the folds forming the ruffle. The number of yards of goods required to make a yard of ruffle will be indicated by the figure opposite the line *x* on the lever C. But in all the changes of the index the feed-plate B will always be carried to the same point by the needle, as seen at Fig. 1, and will also always be in contact with the presser-foot of the machine. If, however, the presser-foot be cut away on one side of the needle, as is the case with some machines, a shoe made of thin metal, as shown in Fig. 7, may be slipped on the presser-foot, that the feed-plate may have bearing against the presser-foot on both sides of the needle and thus carry the cloth into a fold.

The operation of my improvement is as follows: The goods to be ruffled are placed between the feed-plate B and presser-foot of the machine, and as the needle passes down, carrying the long arm of C with it, the short arm of C or the arm Z of the index device acts on the feed-plate B, carry-

ing it backward, leaving a space between the feed-plate and needle, as shown in dotted lines in Fig. 1. Then, as the needle rises, the long arm of C is carried upward and the short arm of C moves the feed-plate B forward to a point indicated at *r*, and in doing so has pressed against the presser-foot and carried the cloth with it, folding it over ready for the needle in its next downward motion to pass through the fold and hold it in place, or attach it to another piece of goods, if such has been placed between the feed-plate B and the bed-plate of the machine.

I am aware that the feeding device of many sewing-machines will ruffle a piece of goods at a distance from the edge (always the lower one, if two pieces are placed in the machine) by the aid of Arnold's or Leslie's improvements; also, that Johnson's improvement will ruffle the upper piece of goods, when two pieces are placed in the machine, by passing the upper piece between a couple of springs, the lower one of which has a backward-and-forward motion, and, pressing the goods against the upper spring, folds the cloth into a ruffle, a result accomplished by the action of my feed-plate B directly against the presser-foot of the machine.

I do not claim as new the ruffling of a piece of goods at a distance from the edge when it is accomplished by the feed of the machine, as with Arnold's and Leslie's improvements; nor do I claim ruffling the upper piece of goods at its edge.

What I do claim as new, and desire to secure by Letters Patent, is—

1. The arm A bent and flanged, as shown, and adapted to be secured to the presser-bar, when combined, as described and shown, with the actuating arm C and the feed-plate B which reciprocates on the arm, as set forth.

2. The single feed-plate B adapted to work directly against the under surface of the presser-foot, and provided with the needle-notch *s*, the turned-up portions *o* and *n*, and the lugs *a a*, all constructed and arranged as described.

3. The index device E provided with the arm Z, in combination with the lever C, screw *v*, and the feed-plate B, all constructed substantially as shown, and for the purposes set forth.

EDWIN J. TOOF

Witnesses:
I. THOMAS TOOF,
W. E. BROWN.

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