

L. SCHULTZ.

Rufflers for Sewing-Machines.

No. 146,482.

Patented Jan. 13, 1874.

Fig. 1.

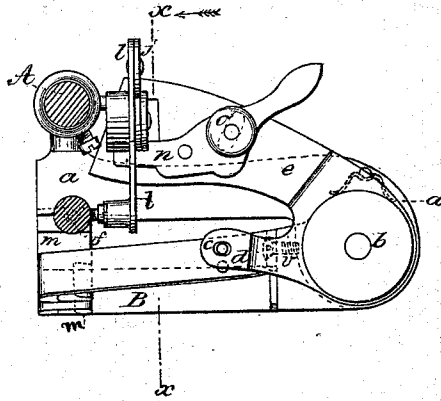


Fig. 2.

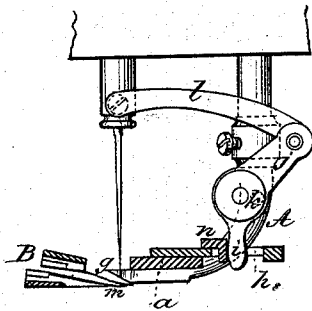
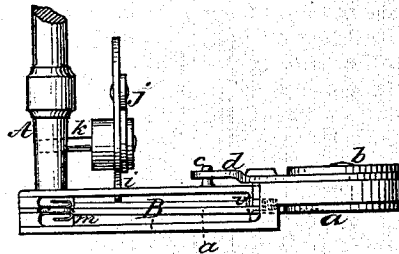


Fig. 3.



Witnesses.

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IMPROVEMENT IN RUFFLERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 146,482, dated January 13, 1874; application filed December 3, 1873.

To all whom it may concern:

Be it known that I, LOUIS SCHULTZ, of College Point, in the county of Queens and State of New York, have invented a new and Improved Ruffler and Plaiter; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a plan or top view of my invention. Fig. 2 is a transverse section of the same in the plan *x x*, Fig. 1. Fig. 3 is a sectional side view of same.

Similar letters indicate corresponding parts.

This invention consists of two jaws, pivoted upon an arm projecting from the presser-foot of a sewing-machine, and made to oscillate on said pivotal bearing, and open and close as the needle-bar reciprocates, through the medium of a bell-crank lever, that has its fulcrum on the pivotal bearing of the jaws. Thus, by imparting to said bell-crank lever an oscillating motion, the jaws or nippers are caused to swing toward and from the presser-foot, and thereby form ruffles or plaits on the material as it passes between the jaws, as will be fully hereinafter described. The invention further consists in providing the oscillating jaws with supporting-lips, to carry the band which is to be sewed to the plaited material.

In the drawing, the letter A designates the presser-foot of a sewing-machine, which is fastened to the presser-bar in the usual manner. From this presser-foot extends an arm, *a*, which forms the bearing for a pivot, *b*, that forms the fulcrum for the nippers B. From the upper jaw of these nippers rises a stud, *c*, which engages with one arm, *d*, of a bell-crank lever, *d e*, that has its fulcrum on the pivot *b*, so that, by imparting to said bell-crank lever an oscillating motion, the nippers B are caused to swing toward and from the presser-foot A. The jaws of the nippers are made of spring-steel, and the upper jaw is connected to the lower jaw by a pivot, *v*, Fig. 3, so that, by turning it on the pivot, it will open or close. As the nippers recede, the pressure of the lever *d* on the stud *c* causes the upper jaw to open, and, as the nippers advance, the

upper jaw is caused to shut down upon the lower jaw, and the material placed between them is compelled to advance with said nippers. The outer end of the presser-foot is beveled off underneath, to allow the jaws of the nippers to pass under the same, and said jaws are provided with recesses *f*, which pass under the needle-hole or throat *g* of the presser-foot, so as to allow the needle to descend, while the material, which is held between said jaws, is presented to the action of the needle. The bell-crank lever *d e* is provided with a slot, *h*, through which extends one arm, *i*, of a bell-crank lever, *i j*, that has its fulcrum on a pivot, *k*, secured in the shank of the presser-foot. From the arm *j* of this bell-crank lever extends a rod, *l*, which is connected to the needle-bar, so that, as the needle-bar moves up and down, an oscillating motion is imparted to the bell-crank lever *i j*, and this motion is communicated, through the bell-crank lever *d e*, to the nippers B. In the slot *h* projects a lever, *n*, which turns on a set-screw, *o*. By moving this lever forward or backward in said slot, the amount of motion imparted to the bell-crank lever *d e* can be increased or diminished, and by these means the size of the ruffles or plaits to be produced can be regulated.

When the needle-bar rises, the nippers are caused to advance toward the needle, and the material retained between said nippers is pushed forward, and since the same is prevented from advancing by the needle-thread, it is compelled to form a plait or ruffle, and it is retained in this position by the combined action of the presser-foot and of the nippers, until the needle has penetrated through the material and fastened the same in the required position.

If it is desired to sew the plaited material to a band, I double up the band and place one part on the upper and the other on the lower jaw of the nippers, and, as the sewing operation progresses, the plaited material is fastened between the band.

For the purpose of supporting the two parts of the band, I have provided lips *m* on the nippers, and if it is desired to tuck under the edge or edges of the band, I provide one or both of the lips *m* with a hemming-guide of the usual conchoidal form.

I do not broadly claim the employment of two jaws combined with the presser-foot of a sewing-machine, said jaws converging toward each other at the ends nearest presser-foot, and operated to retain and carry the material lying between them during their forward movement, and in their backward movement slip over the same, for such is not my invention.

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

1. The jaws B, pivoted upon the plate *a*, and made to oscillate thereon, and open and close as the needle-bar reciprocates, by means of the

bell-crank levers *ij* and *de*, stud *c*, and lever *l*, connected with the needle-bar, all constructed and arranged in the described combination herein shown and described.

2. The nippers B, having the lips *m*, for supporting a braid during the operation of sewing the same to the ruffled material, in combination with the plate *a*, bell-crank levers *ij* and *de*, and the lever *l*, connected with the needle-bar, substantially as described.

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Witnesses:

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