

No. 648,862.

Patented May 1, 1900.

H. ELLIS,
RUFFLER FOR SEWING MACHINES.

(Application filed Aug. 3, 1899.)

(No Model.)

Fig. 1.

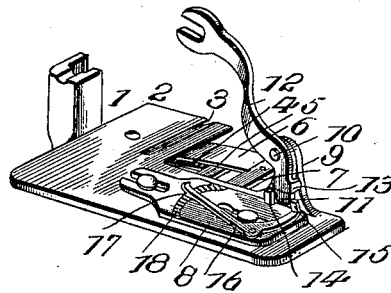


Fig. 2.

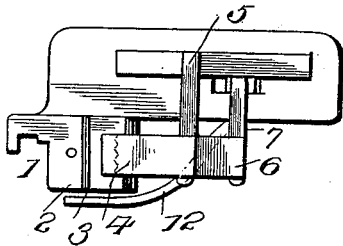


Fig. 3.

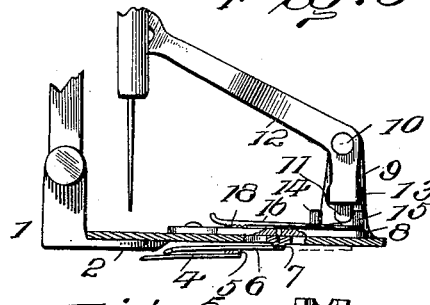


Fig. 4.

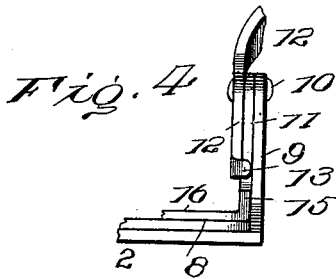


Fig. 5.

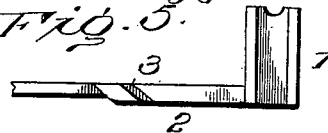


Fig. 6.

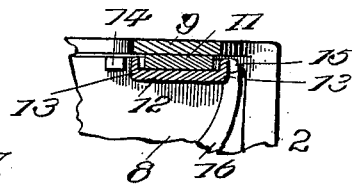
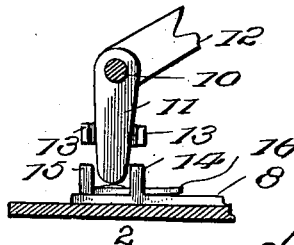


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

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TO EPATHA R. KREUTNER, OF SAME PLACE.

RUFFLER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 648,862, dated May 1, 1900.

Application filed August 3, 1899. Serial No. 726,034. (No model.)

To all whom it may concern:

Be it known that I, HENRY ELLIS, a citizen of the United States, residing at Montgomery, in the county of Montgomery and State of Alabama, have invented certain new and useful Improvements in Rufflers for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that class of attachments for sewing-machines which are designed to ruffle, gather, or shirr goods simultaneously with the sewing operation and which will enable a tape, strip, facing, or the like to overlie the gathered or ruffled goods and be stitched thereto at one operation, said overlying piece being unaffected by the ruffle, the head of the latter being stitched between the main goods and the overlying strip.

The device is so constructed as to admit of any width of ruffle being formed and stitched to the goods, whether bias or otherwise, and the gathering or ruffling blade and the guard or separator are located to the right in contradistinction to the left, as generally practiced. This disposition of the parts enables a great width of ruffle being formed and stitched to the goods and results in convenience of operation and gives the operator full control of the goods, the ruffle, and the overlying strip.

For a full description of the invention and of the merits thereof and also to acquire a knowledge of the construction of the means for effecting the result, reference is to be had to the following drawings hereto attached.

While the essential and characteristic features of the invention are necessarily susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a ruffler constructed in accordance with and embodying the essential features of the invention. Fig. 2 is a view of the ruffler inverted and as seen from the bottom side. Fig. 3 is a longitudinal section. Fig. 4 is a front view of the right-hand edge portion of the attachment, showing the ear, the arm and lever pivoted thereto, and the base and reciprocating plates.

Fig. 5 is a side view of the foot and base, the end portion of the latter remote from the foot being broken away. Fig. 6 is a horizontal section of the parts shown in Fig. 4, taken through the spaced ears of the short arm of the operating-lever. Fig. 7 is a detail view in elevation of the oscillating arm, the end portion of the operating-lever, the stops cooperating with the oscillating arm, and the parts from which the stops extend, showing the relation of the elements.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The presser-foot 1 has a base-plate 2 located at the left-hand side and to which the operating parts are attached. This presser-foot may be of any style, according to the make of the machine, and is constructed for attachment to the lower end of the presser-bar in the well-known manner. A transverse slot 3 is formed in the shoe portion of the presser-foot adjacent to the toe and inclines rearwardly and downwardly and receives the tape, ribbon, or strip to be stitched to the goods over the head of the ruffle. This slot 3 opens through the right-hand edge of the shoe and extends inward a proper distance from the edge.

The guard or separator 4 is arranged to the right of the plate 2, and its front end is attached to an arm 5, projecting laterally from said plate. This guard is a spring, and its function is to hold the ruffle from the main goods during the gathering operation. The gathering or ruffling blade 6 is also arranged to the right of the plate 2 and over the separator 4 and is attached at its front end to the arm 7, parallel with the arm 5 and projecting from a plate 8, mounted to reciprocate upon the base-plate. The free end of the gathering-blade is toothed to engage with the goods and ruffle it upon the forward movement of the said blade.

The plate 8 is mounted to reciprocate longitudinally upon the base-plate and is held thereto and guided in its movements by the usual headed fastenings applied to the base-plate 2 and slots in the reciprocating plate to receive the headed ends of the said fastenings. An ear 9 is formed at the inner edge of

the plate 2 near its front end by bending a portion of said plate vertically or at a right angle. A fulcrum-pin 10 is applied to the ear 9, and an arm 11 is mounted to oscillate thereon. The operating-lever 12 is likewise mounted upon the fulcrum-pin 10 and is of ogee form in plan view, the free end of the long arm being bifurcated to receive the projecting end of the screw of the needle-bar in the usual manner. The short arm of the operating-lever has spaced ears 13, between which the oscillating arm 11 is received, the ears being spaced a sufficient distance to admit of the lever 12 moving a short distance at the end of each stroke before imparting movement to the arm 11. This arrangement enables the needle-bar to acquire an initial impetus at the beginning of each stroke before actuating the ruffler.

Stops 14 and 15 project upward from the plate 8, the stop 14 being fixed and the stop 15 adjustable. The lower end of the oscillating arm 11 enters the space formed between the stops 14 and 15 and imparts a reciprocating movement to the plate 8 from the lever 12. A spring-arm 16 carries the stop 15 and is pivoted to the plate 8 and has a lip 17 to engage with one of a series of teeth 18, formed upon the plate 8 concentric with the pivot of the arm 16, so as to hold the arm and adjustable stop in the desired position.

The attachment is applied to the needle and presser bars of a sewing-machine in the well-known manner, and the goods to which the ruffle is to be applied passes between the throat-piece of the sewing-machine and the separator, and the strip to be ruffled passes between the separator and the gathering-blade, and in the event of a second strip being applied the same passes through the slot 3 of the presser-foot. The three pieces are stitched together at one and the same operation, the ruffler being secured between the main body of the goods and the overlying strip, as will be readily comprehended. The fullness of the ruffle can be varied by adjusting the arm 16 in the manner set forth, whereby the distance between the fixed stop 14 and the movable stop 15 is regulated. The operating parts are located to the right of the base-plate 2, as set forth, in order to secure the most advantageous results, and which in practice has been found beneficial by reason of greater convenience in handling the goods

and enabling comparatively wide ruffles to be stitched to the goods either straight, bias, or as required. This will be clear when it is remembered that a greater number of ruffles are applied to the lower portion of garments and that it is more convenient to have the upper portion of the garment away from the sewing-machine head, so as to hang over the sewing-machine table or encircle the same, which is most generally the case with skirts of flowing character. By having the ruffling mechanism located to the right, as stated, an unobstructed space is provided between the sewing-machine arm and the inner edge of the attachment. Hence a ruffle of any width can be formed with ease and despatch. The bulk of the goods of flowing robes, skirts, and analogous garments can rest upon the outer end of the table and drop over the same and can be more conveniently and advantageously handled than if crowded under the arm of the sewing-machine, as is required with attachments having the ruffling mechanism at the left-hand edge of the base-plate.

Having thus described the invention, what is claimed as new is—

1. In a ruffling attachment for sewing-machines, the combination with the base-plate having an upright and a reciprocating plate bearing the gathering-blade, of an oscillating arm applied to the said upright, stops projecting from the reciprocating plate for co-operation with the oscillating arm, and an operating-lever fulcrumed to the said uprights and having spaced ears to alternately engage with opposite portions of the oscillating arm, as and for the purpose set forth.

2. A ruffler for sewing-machines, comprising a base-plate having an upright, a reciprocating plate applied to the base-plate and having fixed and adjustable stops, a fulcrum-pin applied to said upright, an oscillating arm mounted upon the fulcrum-pin and operating between the said stops, and an operating-lever mounted upon the said fulcrum-pin having spaced ears disposed to alternately engage with opposite portions with the oscillating arm, as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY ELLIS. [L. S.]

Witnesses:

WALTER DAVIS,

WILLIFOR DUSKIN.