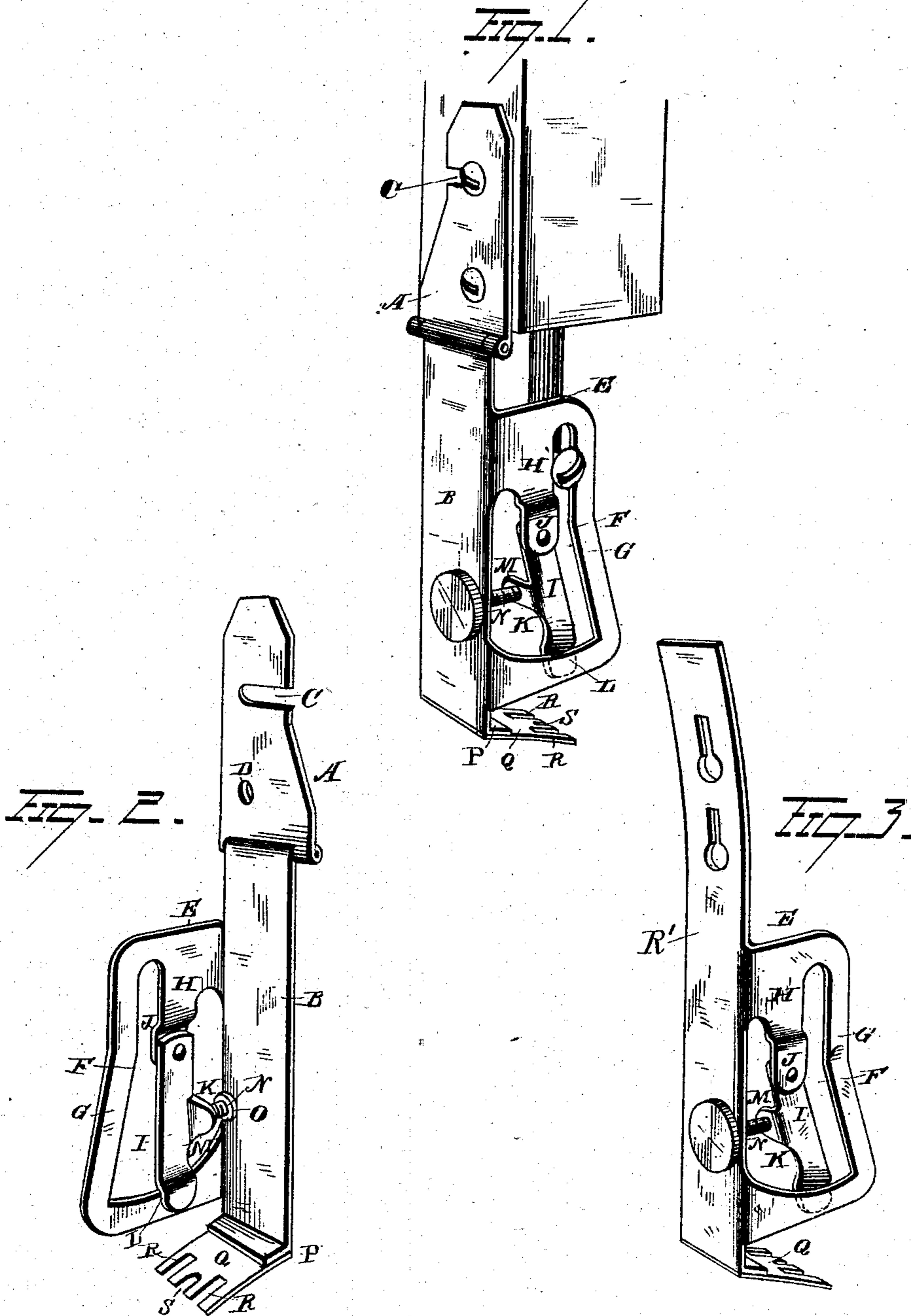


(No Model.)

F. P. CHENEY.
RUFFLER FOR SEWING MACHINES.

No. 252,355.

Patented Jan. 17, 1882.



WITNESSES

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RUFFLER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 252,355, dated January 17, 1882.

Application filed August 30, 1881. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK PORTER CHENEY, of Glover, in the county of Orleans and State of Vermont, have invented certain
5 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
10 others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

The object of my invention is to provide a device of this character which shall combine
15 simplicity of construction and ease of operation with durability and efficiency in use, and which shall be adapted to be manufactured and supplied to the trade at a low initial cost.

With this object in view my invention consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view showing my improved ruffler attached
25 in operative adjustment to the side of a sewing-machine face-plate. Fig. 2 is an inside perspective view of the ruffler as it appears when detached from the machine, and Fig. 3 is a similar view of a modified form of my improvement.
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The device is attached to the face-plate of a sewing-machine by means of a plate, A, to the lower end of which the depending oscillating arm B is hinged. The said plate A may be
35 secured to the face-plate of the sewing-machine in any desired manner, the desideratum being to provide devices by means of which it may be easily and quickly secured thereto, and as readily removed therefrom. In the drawings the plate A is shown as being provided with an open horizontal slot, C, adapted to receive a screw, or a stud permanently secured to the side of the face-plate, and with a perforation, D, to receive a removable thumb-screw.
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The described adaptation enables the device to be secured in position securely enough for all purposes, and has the merit of being very simple; but other methods of securing the device to the machine may be resorted to, if desired.
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The depending arm B, pivotally secured to the lower end of the plate A, is provided on its right side with a plate, E, which may be made integral with or secured to it; but for the desirable qualities of superior lightness
55 and simplicity the first-mentioned construction will generally be found preferable. The said plate E, which forms a right angle with the arm B, is provided with a guideway, F, adapted to receive the screw in the needle-bar, which retains the needle in position therein.
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The front wall of the guideway is formed by the solid bar G, which constitutes the outer edge of the plate E, while its inner wall is formed by the portion H of the plate and by
65 the arm I, pivotally secured to the depending lug J, and adapted to swing to and fro in the open space K. The lug J, to the inner face of which the arm I is pivoted, is bent outwardly a distance equal to its own thickness, so that
70 the inner faces of the plate and arm will present an unbroken plane. On account of this construction it is necessary to bend the lower end of the arm inwardly, as at L; and in order that its rearward motion may be limited to a point at which its outer edge makes a perpendicular line with the upper portion of the rear wall of the guideway, this bend L is made to take such inclined form as will adapt the arm to lock at the desired point with the lower
80 edge of the space K. The rear edge of the said arm is provided with an inwardly-projecting shoulder, M, against which a set-screw, N, mounted in a sleeve or burr, O, located in the arm B, impinges.
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The lower extremity, P, of the arm B is bent inwardly and forms a suitable point for the attachment of the thin and flexible ruffling-plate Q, which is provided with slots R, to receive the feeding-plate, and with a slot, S, to receive
90 the sewing-machine needle. It should be observed that the said extremity P of the arm B is bent to form a slightly-obtuse angle with it, so that the plate Q will be slightly inclined toward the fabric, and thus be adapted to more readily engage with and carry it forward to form the plaits.
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The upper half of the guideway F is located in the same vertical plane in which the needle-bar reciprocates, and therefore, for the reason
100

that the motion of the needle-bar in it does not move the arm B, this portion of the guideway is called the "rest." It is also apparent that when the arm I is in its most remote rearward or locked adjustment, in which position it is shown in Fig. 2 of the drawings, the rear wall of the guideway coincides with the plane in which the needle-bar reciprocates, and therefore no oscillatory motion will be imparted to the arm B and its attached parts. When, however, the lower portion of the rear wall of the guideway is thrown out of a right line by forcing the arm I forward, which is accomplished by manipulating the set-screw N, the screw attached to the needle-bar which is received in the guideway will engage in the downward stroke of the bar with the said lower portion of the rear wall of the guideway and push the arm B and its parts away from the needle, only to carry it toward the needle again, when in its upward movement the screw engages with the outer wall of the guideway, which presents a fixed inwardly-inclined angle or curve. The amount of motion to and fro—or, in other words, the oscillatory movement—of the arm B will, of course, depend solely on the degree of deviation of the rear wall of the guideway from a right line.

The width of the individual plaits, which, taken together, form ruffles, will directly increase and decrease according as the oscillatory movement of the arms B is more or less pronounced, and as this is entirely regulated by the set-screw N, it is evident that many styles of work may be done by simply manipulating the same.

An important function of the rest or upper portion of the guideway consists in allowing the needle-bar to descend far enough to permit the puncture of the plaits by the needle before the plate Q is withdrawn from them by the engagement of the screw with the lower portion of the rear wall of the guideway. By virtue of this feature of operation every plait

is firmly secured in place, and the beauty and strength of the ruffling greatly enhanced.

In the modified form of my improvement which is shown in Fig. 3 of the drawings an elastic arm or spring, R', is substituted for the plate A and arm B; otherwise the device is like that shown in the other figures. The upper end of the arm R' is adapted to be secured to the sewing-machine face-plate, and for the oscillatory movement of its lower end its elasticity is depended upon instead of the hinge, as in the other form of ruffler. As the screw of the needle-bar descends in the guideway, it has to overcome the spring force of the arm before it can carry it forward, but as the bar rises the arm will return to its normal position unaided.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a ruffler for sewing-machines, the combination, with an arm adapted to be secured to the face-plate of a sewing-machine, of a plate, E, having the depending arm J and guideway F, an arm, I, pivoted to the arm J, and adjustable by means of a thumb-screw, N, substantially as set forth.

2. In a ruffler for sewing-machines, the combination, with the needle-bar and screw or stud attached thereto, of an arm adapted to be secured to the face plate of a sewing-machine, said arm being provided with a plate located at right angles to the arm, the plate being formed with a bar, G, depending arm J, pivoted arm I, having a lateral extension, M, and a set-screw, N, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 23d day of August, 1881.

FREDERICK PORTER CHENEY. [L. S.]

Witnesses:

JOHN L. CARR,
CHAS. W. COOK.