

J. F. KELLOGG.

RUFFLER.

No. 184,714.

Patented Nov. 28, 1876.

Fig. 1

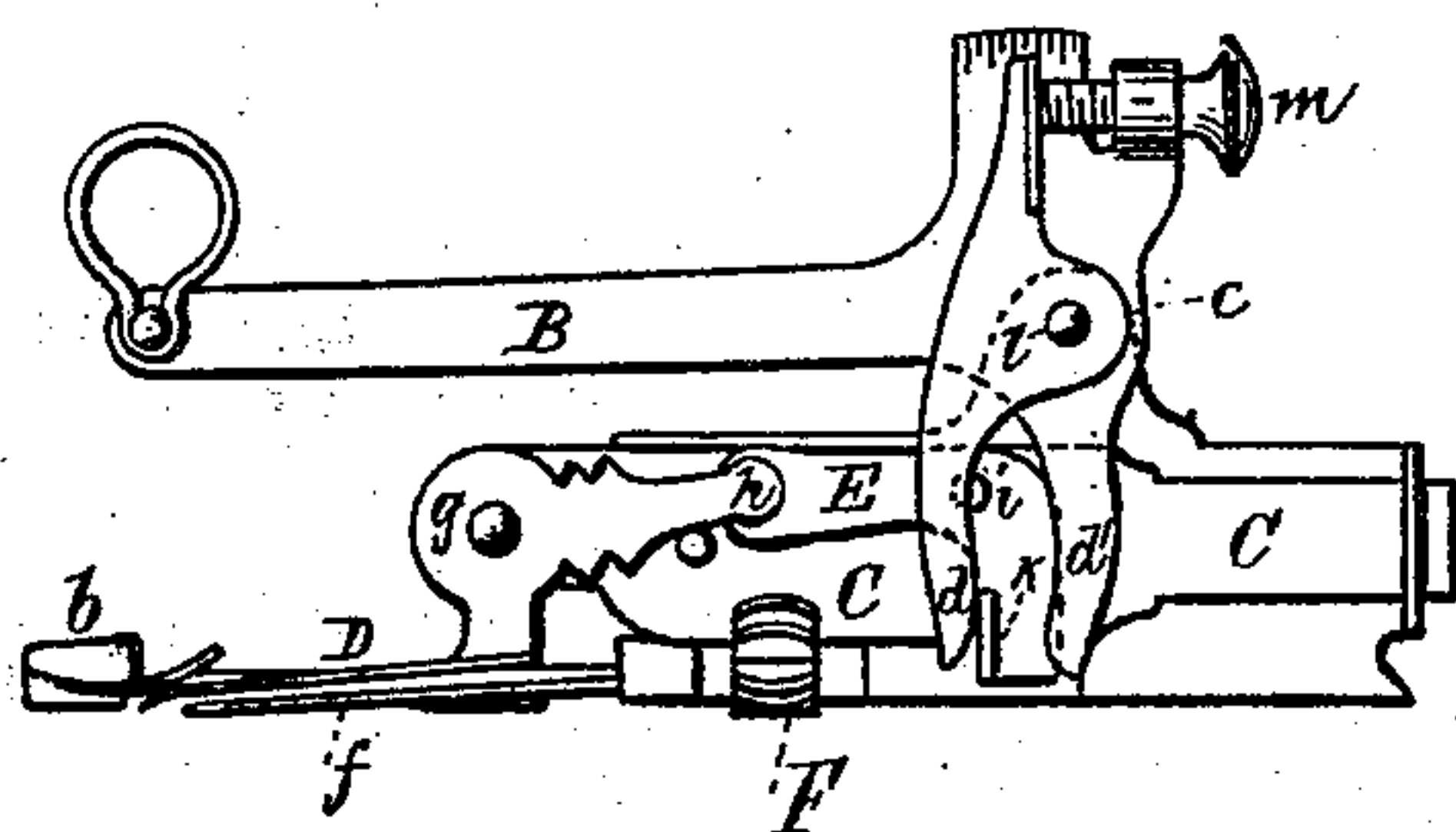
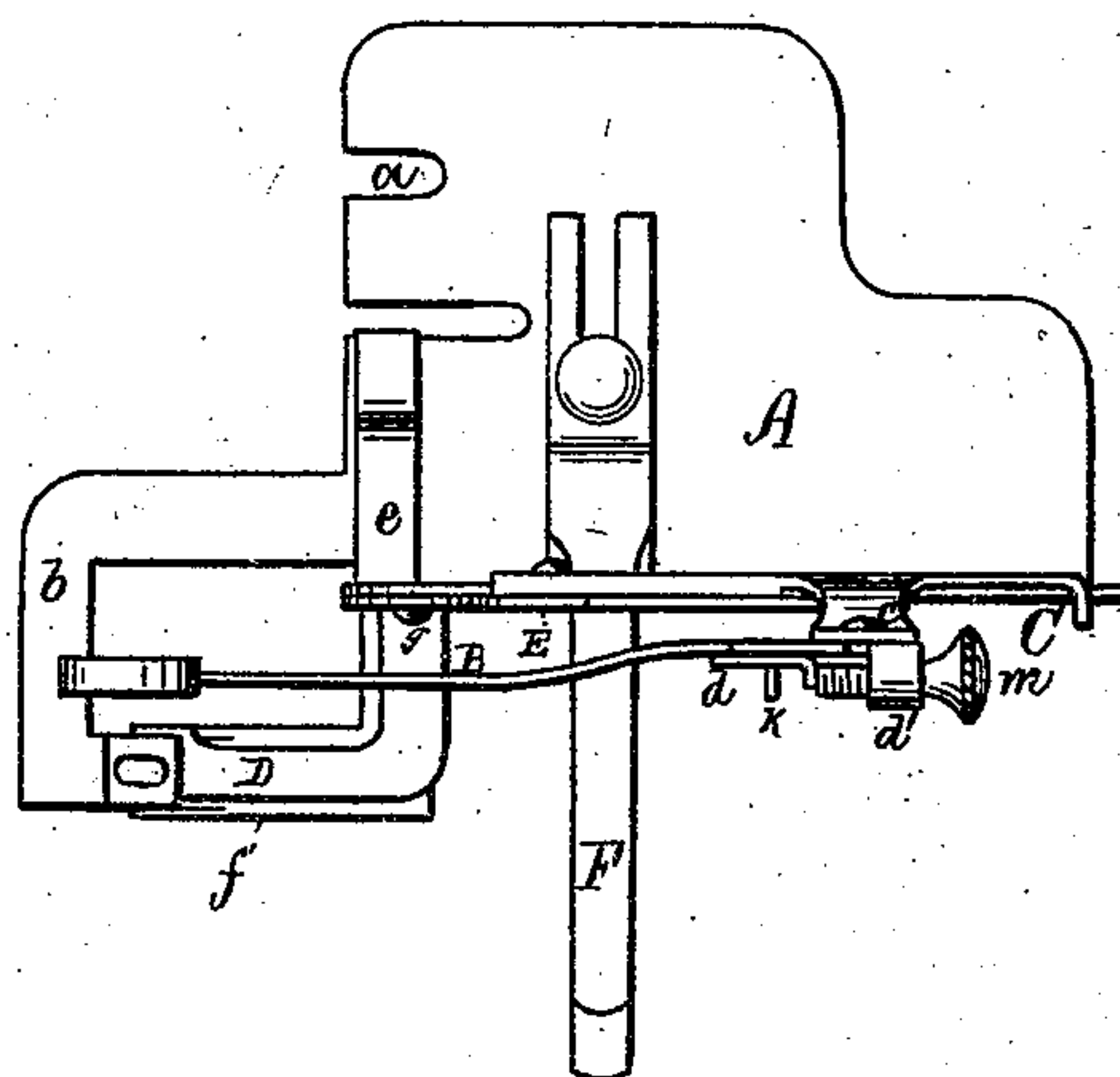


Fig. 2.



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN RUFFLERS.

Specification forming part of Letters Patent No. 184,714, dated November 28, 1876; application filed June 26, 1875.

*To all whom it may concern:*

Be it known that I, JAMES FRANKLIN KELLOGG, of Forestville, in the county of Chautauqua, in the State of New York, have invented certain new and useful Improvements in Rufflers adapted for use with sewing-machines either as a permanent or a temporary attachment; and I do hereby declare that the following specification, taken in connection with the drawings furnished, and forming a part of the same, is a clear, true, and complete description of the same.

My invention consists in the novel combination, with a vibrating ruffling-finger, of a reciprocating sliding bar, an auxiliary lever, and an operating-lever, arranged for operative connection with the needle-bar of a sewing-machine, whereby the ruffling-finger is vibrated and made to forcibly engage with the fabric during its forward movement, and also vibrated and made to retreat without compressing the fabric, simultaneously with the movement of the sliding bar.

Figures 1 and 2 represent, in perspective and in top view, a ruffler embodying my invention.

It will be understood that my rufflers belong to that class which operate upon the upper surface of the fabric to be ruffled, instead of the lower or under surface.

Like all rufflers of this general class, mine is mounted on a bed-plate, as at A, and, when employed as an attachment, it is provided with the usual attaching-slot, as at *a*. It has also the projecting arm, as at *b*, which supports an upwardly-turned plate having a needle-hole, as heretofore.

Commencing with the operative lever B, it will be seen that it is provided with the usual means for connection with the needle-bar of the sewing-machine. This operative lever may be arranged, however, to be driven downward by the needle-bar and forced upward by a spring, or forced downward by a spring and driven upward by the needle-bar, without departing from the main feature of my invention, as will be hereafter more fully described.

It will be seen that the operative lever B is pivoted, as at *c*, to a vertical standard on the bed-plate. Said lever is of the bell-crank or-

der, and its lower or nearly vertical arm is composed of two parts, as at *d* and *d'*. C denotes a sliding bar, which is fitted to guide-bearings formed in a vertical extension of the bed-plate. This sliding bar has, at its front end and on its rear side, a guiding-arm, as at *e*, which, by engaging in a slot in the bed-plate, (shown in Fig. 2,) secures the adjacent end of the sliding bar against undue lateral vibration. The ruffling-finger D has a bearing-plate at *f*, as heretofore constructed, by means of an extension of the bed-plate. This bearing-plate, in operation, is between the main fabric and the strip to be ruffled and stitched thereto. The operative end of the ruffling-finger is toothed, and at its end is curved slightly downward. The upper surface of the bearing-plate *f* is, for a short distance, provided with longitudinal scores or grooves corresponding in position with the teeth of the finger. In form, the ruffling-finger, as a whole, resembles a bell-crank lever pivoted to the sliding bar, as at *g*. One end thereof has a lateral bend and a longitudinal extension, which terminates at the teeth. The other or upper end terminates in a flat semicircular head, as at *h*.

It will here be observed that, if the flat head *h* be raised, the toothed finger will be depressed and forced to engage with the fabric, and that if said head be depressed the toothed finger will be raised from the fabric.

E denotes an auxiliary bell-crank lever, also pivoted to the sliding bar, as at *i*. Its horizontal arm, at its outer end, is provided with a semicircular jaw, which embraces the head *h* of the ruffling-finger lever. The opposite or vertical arm of this lever E is provided with a laterally-projecting stud, as at *k*. It will be seen that this stud *k* is so placed with relation to the coincident edges of arms *d* and *d'* of the operative lever that when said lever is vibrated these arms alternately engage with the stud, and, in doing so, alternately raise and lower the toothed end of the ruffling-finger.

With these parts thus constructed, when the operative lever is fully vibrated by the needle-bar of a sewing-machine, the sliding bar is driven forward and backward practi-



cally simultaneously with a downward and upward movement of the toothed end of the ruffling-finger.

When adapted only for making ruffles of one particular degree of fullness, the two arms  $d$   $d'$  are made non-adjustable with relation to each other; but when adapted for general domestic uses the arm  $d$  is separately made, and rendered adjustable by pivoting it independently, as at  $l$ , and combining therewith an adjusting-screw, as at  $m$ .

A graduated scale may be employed near the adjusting-screw, as indicated in the drawing, for properly setting the movable arm of the lever in each instance.

At F I show a guide, which is rendered longitudinally adjustable by means of a slot and a set-screw, as seen in Fig. 2. It is composed of several strips of spring metal, arranged so as to afford several intervening spaces through which the several thicknesses or strips of fabric are conducted toward the stitching mechanism. It is also arranged to compress the fabric at the outer ends of the spaces, thereby

securing a desirable degree of tension on the fabrics, and keeping them straight and smooth without the necessity of constant manipulation by the operative.

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

The combination, with the stationary bearing-plate, of a rocking or vibrating ruffling-finger, an auxiliary lever, a sliding bar on which the finger and lever are mounted, and an operating-lever arranged to engage with the auxiliary lever, and thereby move the sliding bar and actuate the ruffling-finger, substantially as described, whereby the ruffling-finger is made to compress the fabric between it and the bearing-plate to move the fabric forward on said plate, and, in retreating, is lifted from the fabric by the vibration of the operating-lever, as set forth.

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Witnesses:

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