

E. J. TOOF.

RUFFLERS FOR SEWING-MACHINES.

No. 181,879.

Patented Sept. 5, 1876.

Fig. 1.

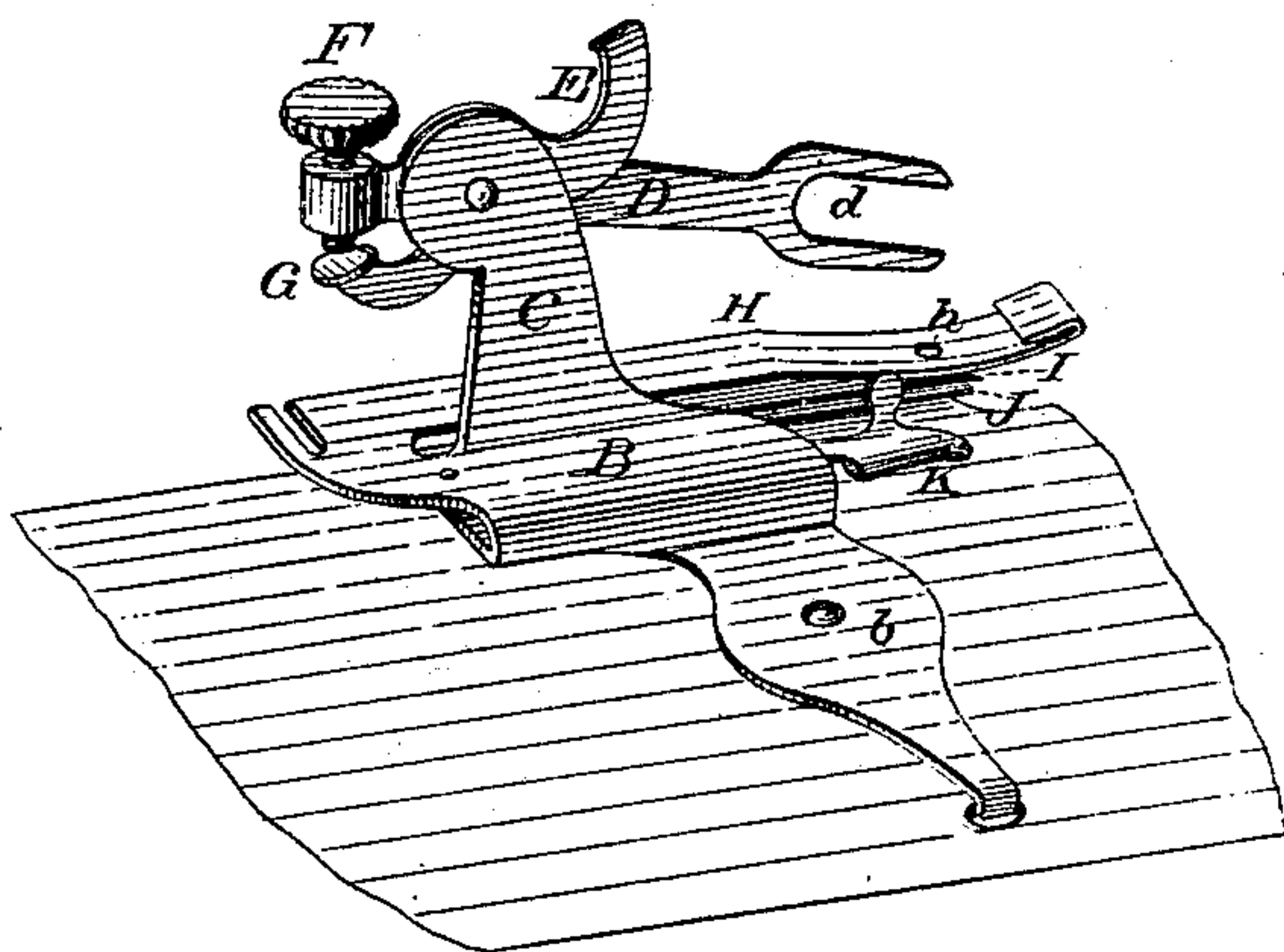
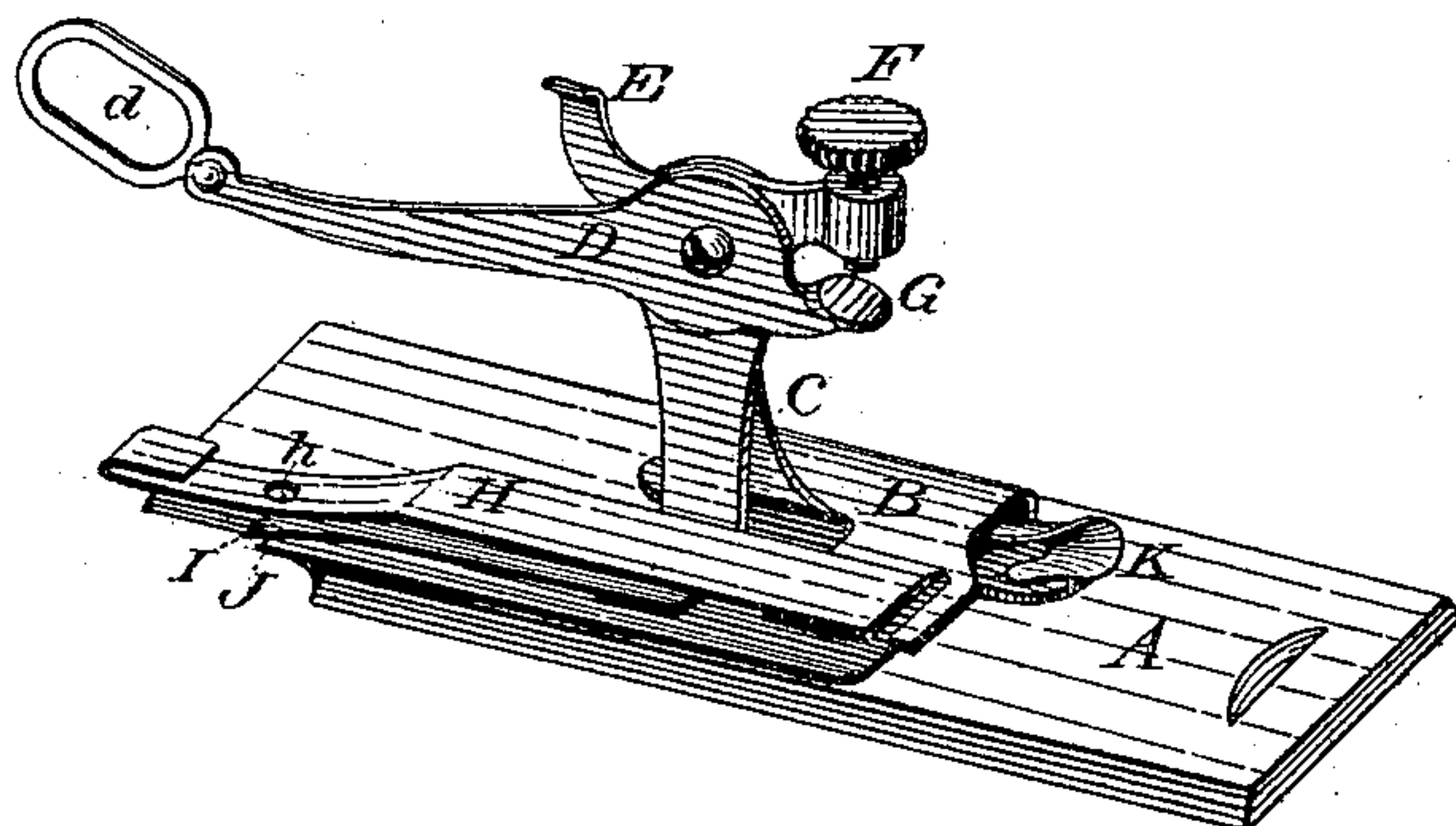


Fig. 2.



Attest:

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN RUFFLERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **181,879**, dated September 5, 1876; application filed July 12, 1876.

*To all whom it may concern:*

Be it known that I, EDWIN J. TOOF, of the city of New Haven, in the county of New Haven, in the State of Connecticut, have invented new and useful Improvements in Ruffling Attachments for Sewing-Machines; and I do hereby declare that the following specification, taken in connection with the drawings furnished, is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

My invention consists in constructing a ruffling or gathering attachment for sewing-machines in a manner dispensing with the usual number of parts and bearing-surfaces, thereby rendering the sliding frame and race unnecessary, which enables me to produce a simple, cheap, and effective ruffling attachment, less liable to get out of order than those composed of a greater number of parts, and which may be operated by the needle-bar of the sewing-machine, with comparatively little or no strain to it from the operation of the attachment.

Referring to the drawings, Figures 1 and 2 represent my improvement, composed of a frame, B, with an upright post, C, lever D, ear E, adjusting-screw F, foot G, smoother or presser H, gathering-blade I, separator J, adjustable gage K. The frame B, which is fully illustrated in Figs. 1 and 2, is made of metal, forming a bridge, between the top and base of which passes the material to be operated upon. Projecting above is the upright C, at or near the top of which is pivoted the lever D, which is actuated by the needle-bar, (similar to other like attachments,) which is the medium for operating the gathering-blade I, which is securely attached to the oscillating or vibratory lever E, part of its top being provided with an ear, curved in a manner to receive the upward stroke of the lever D, while the opposite end is provided with an adjusting-screw, for the purpose of regulating the throw or traveling distance of the gathering-blade, which defines the width of the gathers, which will be readily understood upon reference to the drawings. The smoother represented at H is made of thin spring metal, secured to the upper part of the bridge or frame B, and is made to extend, when applied in

practice, partially under the presser-foot of the sewing-machine, being made of thin metal, to enable it to yield more or less to the action of the presser-foot, as well as to the uneven thickness of the material operated upon. The separator J is secured to the lower part of the base or bridge piece, as shown in Fig. 2 of the drawings, extending forward toward the needle. The end of this separator is provided with a slot, thereby forming points to project beyond the path of the needle. This serves as a separator to keep the strip (which is to be gathered) from the material to which the ruffle is to be sewed, which also allows the strip to move with greater freedom than when the same is advanced in direct contact with the material beneath it; it also serves as a plate to prevent the engagement of the plaiting-blade with the feeding device. A gage is arranged to act as a movable guide to regulate the distance of the line of stitches from the edge of the material operated upon, which gage is represented in Figs. 1 and 2 at K, secured in position to the bridge by screw or rivet acting as a pivot.

I have represented my improvement in two forms or modifications—that is to say, Fig. 1 represents a device adapted for ready application to any ordinary sewing-machine, secured in position by the screw usually employed for the adjustment of other attachments, while Fig. 2 represents the same principal features as in Fig. 1, with the exception of its being provided with a plate made to fit the groove provided for the slide which covers the shuttle-race of a sewing-machine. By the latter arrangement I am enabled to produce an attachment which is at all times in readiness for application and operation, requiring no adjustment, obviating a difficulty which has been heretofore a cause of great annoyance and perplexity to the operator.

The mode of operating my improved attachment is manifest from its construction. The eye or loop provided at the extremity of the actuating-lever is made to embrace a projection upon the lower part of the needle-bar, usually being the nut or screw for securing the needle in position. The motion of the needle-bar imparts the requisite motion to the lever which operates the attachment in unison with



the feed or stitches made. Again, the construction and arrangement of the lever and other connecting parts are such as to avoid unnecessary motion to the gathering-blade, or other connections—as, for example, the lever, in rising and falling with the needle-bar of the machine, will not operate the blade or other parts until the desired instant, which is regulated by the screw for that purpose, by which medium a greater or less distance is made between the two striking-points—that is, the points of the screw and the ear formed upon the pendent arm or lever which supports and carries the blade.

The parts of my attachment may be made of any suitable metal, preferring brass, however, for the levers and steel for the blades.

Having thus set forth my invention, what I claim as new, and desire to secure by Letters Patent of the United States of America, is—

1. In a ruffling attachment adapted to be secured to the base-plate or sliding plate of a sewing-machine, the combination, with the base or bridge piece B, of the gathering-blade I, separator J, levers D and E, and the presser or smoother H, substantially as and for the purpose set forth.

2. In a ruffling attachment adapted to be secured to the base-plate of a sewing-machine, the combination of the bridge B, provided with a post supporting a pendent arm, to which a gathering-blade is rigidly connected, and an open-ended lever connecting with the needle-bar, for operating said arm and gather-

ing-blade, substantially as and for the purpose set forth.

3. The combination of a lever, D, adjusting-screw F, vibrating arm E, frame B C, blade I, presser or smoother H, and separator J, substantially as and for the purposes set forth.

4. The combination of frame B C, levers D E, adjusting-screw F, gathering-blade I, presser H, separator J, and edge-gage K, substantially as and for the purposes set forth.

5. The combination of frame B C, levers D E, adjusting-screw F, gathering-blade I, presser H, and edge-gage K, substantially as and for the purposes set forth.

6. In a ruffling or gathering attachment adapted to be secured to the cloth-plate of a sewing-machine, an elastic blade, rigidly secured to a pendent arm, which arm is actuated by a forked horizontally-arranged lever connecting with the needle-bar, substantially as and for the purpose set forth.

7. In a ruffling or gathering attachment for sewing-machines, the combination of two levers, one of which is vertically arranged, supporting a gathering-blade rigidly attached thereto, the other horizontal, and an adjusting medium at their junction, for regulating the throw of the gathering-blade, and for varying the fullness of the ruffles or gathers, substantially as set forth.

EDWIN J. TOOF.

Witnesses:

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WILLIAM CASE.