

(Model.)

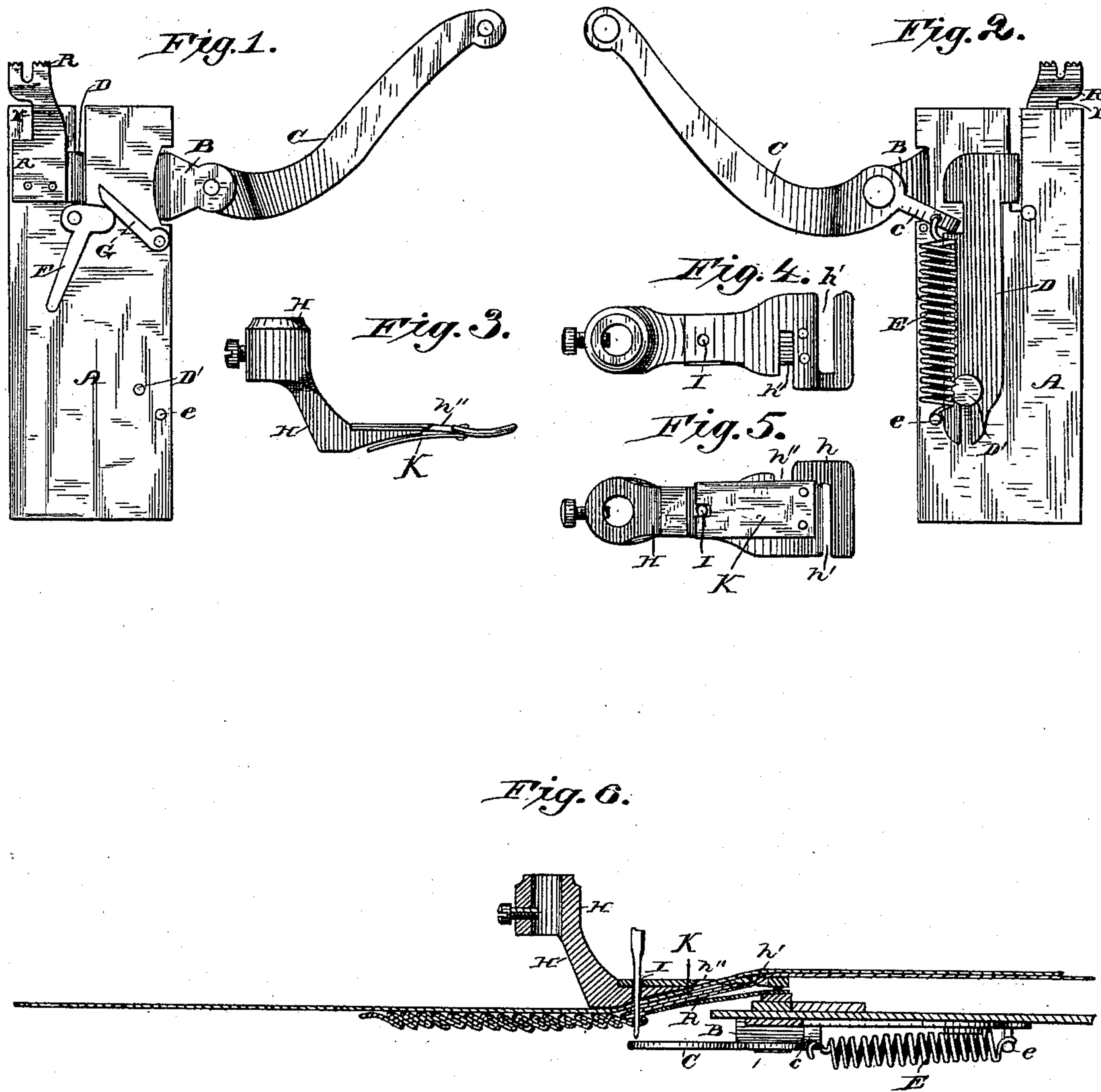
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T. L. MELONE.

RUFFLING ATTACHMENT FOR SEWING MACHINES.

No. 378,705.

Patented Feb. 28, 1888.



Attest:
Wm. J. Pinner,
Herbert Knight.

Inventor:
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Atty's

(Model.)

2 Sheets—Sheet 2.

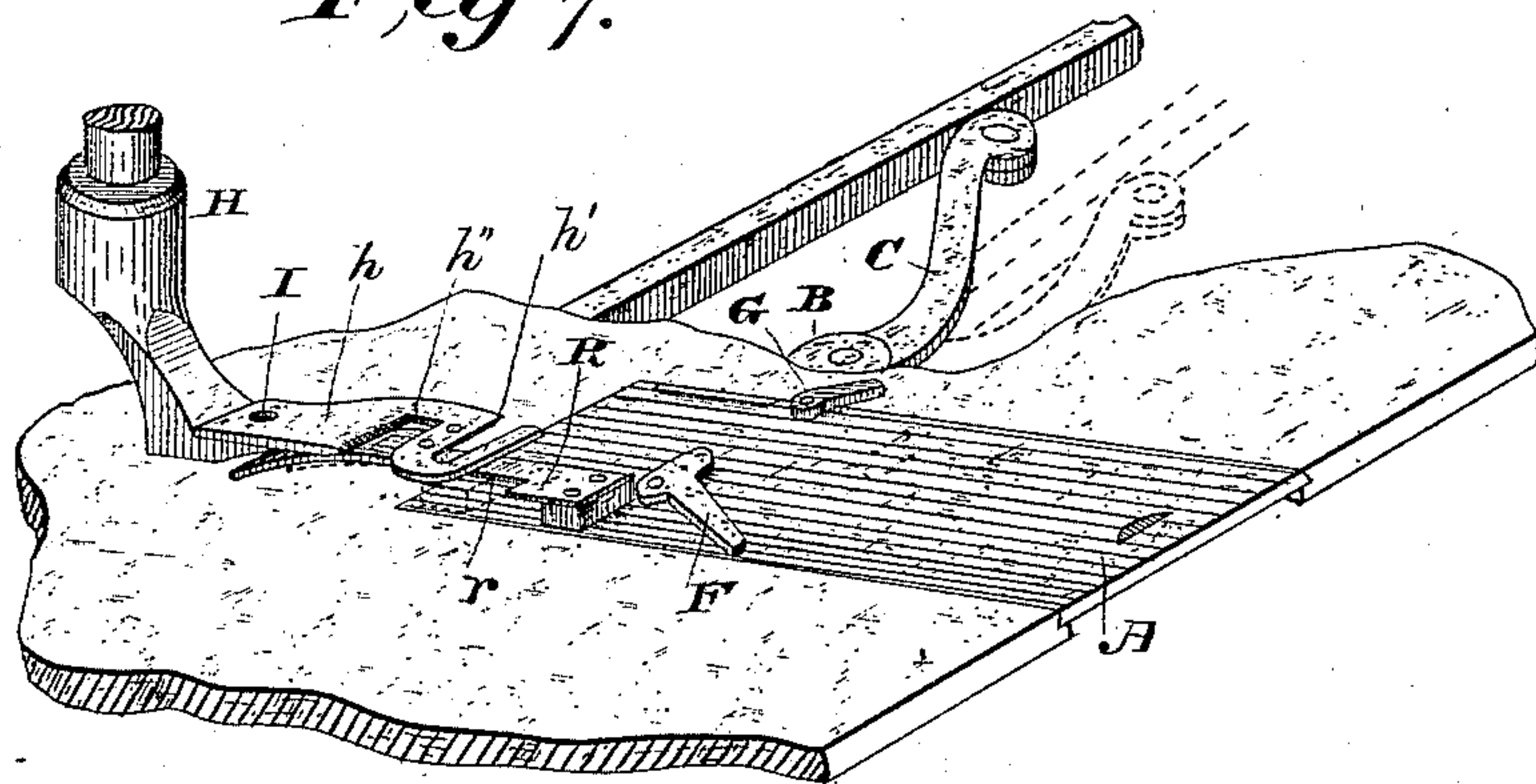
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Fig 7.



Attest:

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UNITED STATES PATENT OFFICE.

THOMAS L. MELONE, OF CHILLICOTHE, OHIO.

RUFFLING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 378,705, dated February 28, 1888.

Application filed May 17, 1883. Serial No. 95,189. (Model.)

To all whom it may concern:

Be it known that I, THOMAS L. MELONE, of Chillicothe, in the county of Ross and State of Ohio, have invented a new and useful Improvement in Rufflers for Sewing-Machines, of which the following is a specification.

The objects of my invention are, first, to provide a ruffling attachment for sewing-machines adapted to derive its motion from the shuttle-arm; second, to provide a ruffler having all its working parts located beneath the shuttle-slide, so as to be out of the way of the operator, and, third, to secure positive connections of all the parts, so that there shall be no loose joints to rattle.

My invention consists of a ruffling attachment for sewing-machines deriving its motion from the shuttle-arm or shuttle movement of the machine, and a presser-foot entirely separate from the blade of the ruffling attachment, but designed to work in connection therewith, said attachment being provided with either a single or double ruffling-blade with the teeth turned outward to ruffle against the throat-plate or foot, or both at once, as may be desired.

In order that my invention may be fully understood, I will proceed to describe the same, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 represents a top view of my improved ruffling attachment. Fig. 2 is a bottom view; Figs. 3, 4, and 5, respectively, side, top, and bottom views of my improved presser-foot; Fig. 6, the ruffler in connection with the presser-foot, showing the cloth before and after ruffling. Fig. 7 is a perspective view of my device, showing it in operative position relatively to the bed and shuttle-arm of a sewing-machine, and in dotted lines in its forward position.

Referring to the drawings, A represents the main plate of the ruffler adapted to be secured in the shuttle-slide opening of a sewing-machine.

B is a lug projecting down and outward from the plate A, and provided with a lever, C, pivoted thereto, the said lever C having a short arm, *c*, operating in a slot in a slide, D. The forward end of the slide D turns upward and

passes through a slot in the plate A. To this portion of the slide D, which lies above the said main plate, is riveted or otherwise suitably attached the ruffling blade or blades R.

D' is a guide-pin in the plate A, passing through a slot in the slide D, for guiding the movements of the said slide.

E is a spring attached at one end to the short arm *c* of the lever C, and at the other to a suitable projection, *e*, for the purpose of producing the backward movement of the ruffler-blade R.

By this construction and arrangement of the parts I am enabled to overcome the objectionable feature heretofore existing of having the working parts of the attachment located above the shuttle-slide and in the place intended for the hands of the operator, which should be clear of obstructions to permit of the free movement of the goods.

F is a cam-lever pivoted eccentrically to the plate A in the rear of the ruffler-blade, by means of which the stroke of the ruffling-blade is lengthened or shortened. A cam-lever, G, is also attached to the plate A for the purpose of locking the ruffler in proper position in the shuttle-slide.

H is a presser-foot having suitable means for attaching it to the presser-foot bar and having a forward extension, *h*. In the sides of this extension are cut slots or openings *h'* and *h''*, which lie in planes transverse to the direction in which the work is fed and form tongues designed to separate the several strips of fabric from each other. The piece of goods to be ruffled is inserted in the forward slot, *h'*, while the piece of goods to which the ruffled piece is to be stitched is inserted in the rear slot, *h''*, the two pieces being separated by the tongue situated between the two slots. Secured to the under side of the presser-foot is a plate, K, formed, preferably, of spring-steel, which extends rearward from a point beneath one of the tongues formed by the slots *h'* and *h''* to the opening I, through which the needle descends. This is for the purpose of preventing the teeth on the extremity of the ruffling-blade R from penetrating the piece of fabric to be ruffled and engaging the upper piece, or the piece to which the ruffled piece is to be stitched. This plate K should extend rearward sufficiently

far to form a bearing for the ruffling-blade throughout its entire stroke. The slots h' and h'' are shown in the drawings as formed in the opposite sides of the presser-foot, whereby they
5 are made to act as guides for limiting the extent to which the edges of the two pieces of goods shall overlap. The needle moves through the holes represented at I.

The connection between the lever C and the
10 shuttle-arm may be accomplished by means of a lug, a spring, or a strap, whichever may be preferred. The ruffling blade or blades are cut away on the left side at r to form a guide for turning under a strip of heading below the
15 ruffle.

The operation of my ruffler may be seen in Fig. 6. The strip or piece to be ruffled is fed through the gage or opening h' of the presser-foot. The strip for heading is fed through the
20 opening h'' above the piece for ruffling. The ruffler-blade, operated by the lever C, as described, moves against the under side of the piece for ruffling, and forms the laps, as shown in the drawings, immediately before
25 its reaching the needle, where it joins and is sewed to the heading-strip. If it is desired at the same time to put this ruffle and heading upon the bottom of a dress-skirt, it may be done by turning the edge of the skirt
30 in a fold and passing it downward through the guide r . Or in case it is wished to sew a ruffle and heading upon the skirt at some distance from the bottom, the heading is folded upward and passed downward through the
35 guide r . The strip to be ruffled passes over the blade between it and the foot, and is guided with the hand by the turned edge of the heading. The skirt passes over the strip to be ruffled, and between it and the foot. In this
40 case all of the goods are turned wrong side up, and the skirt is held in check by the hand to keep it from being gathered by the ruffling-blade. It is necessary in this form of the ruffler to prevent the action of the feed-points by
45 fitting around them a thin piece of steel or other metal, through which the needle passes. This strip also fills the space left when the feed drops, which is cut away under the foot to let the ruffling-blade to the needle. This
50 space would permit the goods to lift with the needle, and thus cause dropping of stitches if the space were not occupied by the strip.

In case the blade is made to do the ruffling against the throat-plate, the action of the
55 spring and lever is reversed, so that the thrust of the blade is made by the action of this spring and not by the lever, the latter serving to retract the blade at the time of the downward stroke of the needle-bar, both reaching
60 the end of their stroke at the same time. On the upward stroke the spring acts immediately and completes the thrust of the blade before the feed lifts above the throat-plate to engage the goods, and rests until the stitch is
55 tightened, thus dispensing with a blade to separate the ruffling-blade from the feed-points, as is customary in a drop-feed sewing-machine.

In this form the blade should be fastened to the upper fold of a guide folded upon itself, so as to admit the ruffle from opposite sides. 70

By getting the motion for my ruffling-blade from the shuttle-arm I disconnect the blade entirely from the presser-foot of the machine, and am enabled to get my gages upon the foot and into the closest proximity to the needle,
75 and secure free and unobstructed access for the goods to the needle, which enables me to sew ruffles upon the work with a drop-feed machine in a great variety of ways which are desirable, but which are impossible with
80 a ruffler deriving its motion from the needle-bar. I thus greatly facilitate this class of work.

The size of the ruffle can be altered by simply turning the cam-lever F on its axis. 85

I am aware that it has been proposed to cut a slot in the side of the presser-foot, whereby a rigid tongue is formed for separating the piece of fabric to be ruffled from the piece to which the ruffled piece is stitched. Such I do
90 not claim as my invention, which consists in securing to the under side of the presser-foot a plate which extends rearward from a point beneath the tongue thus formed and covers the slot through which the upper piece of
95 goods passes.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a ruffling attachment, the combination, 100 with the main plate having a longitudinal slot, of a slide secured to the under side of said plate and having an upturned portion extending through said slot, to which the ruffling-blade is secured, and a horizontal arm pivoted
105 beneath the main plate and having connection with said slide and the shuttle movement, as set forth.

2. A ruffling attachment for sewing-machines having a main plate adapted to be secured in the shuttle-slide opening, a lug extending downwardly and outwardly therefrom, and a lever pivoted horizontally to the said
110 lug and adapted to receive motion from the shuttle-arm and transmit it to a slotted plate
115 on the under side of the main plate, as set forth.

3. A ruffling attachment for sewing-machines consisting of a main plate, A, downwardly and outwardly projecting lug B, lever C, having arm c , and the slide D, situated beneath and extending upward and through a
120 slot in the main plate, for operating a ruffling-blade, as set forth.

4. A ruffling attachment for sewing-machines, as described, with a main plate having
125 a slide bearing the ruffling-blade, the said slide moving upon the upper and lower surfaces and in a guide-slot of the main plate, substantially as described.

5. The ruffling-blade having an opening in the side as a guide for a re-enforcing piece, as
130 set forth.

6. In a ruffling attachment for sewing-machines, the main plate having a slot, as de-

scribed, and a slide, D, carrying the ruffling-blade and extending through said slot and resting and sliding upon both faces of the plate, in combination with the presser-foot H, substantially as herein described.

7. In a ruffling attachment for sewing-machines, a presser-foot having guide-openings in its opposite sides, in combination with a ruffling-blade having an opening in its side, as and for the purpose set forth.

8. In a ruffling attachment for sewing-ma-

chines, a presser-foot having openings in its opposite sides forming guides for the goods to be operated on, and provided with a flexible plate attached to the under surface of the presser-foot between the guide-openings for separating the goods, as described.

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Witnesses:

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