

(No Model.)

F. O. FARWELL.

RUFFLING AND SHIRRING ATTACHMENT FOR SEWING MACHINES.

No. 254,543.

Patented Mar. 7, 1882.

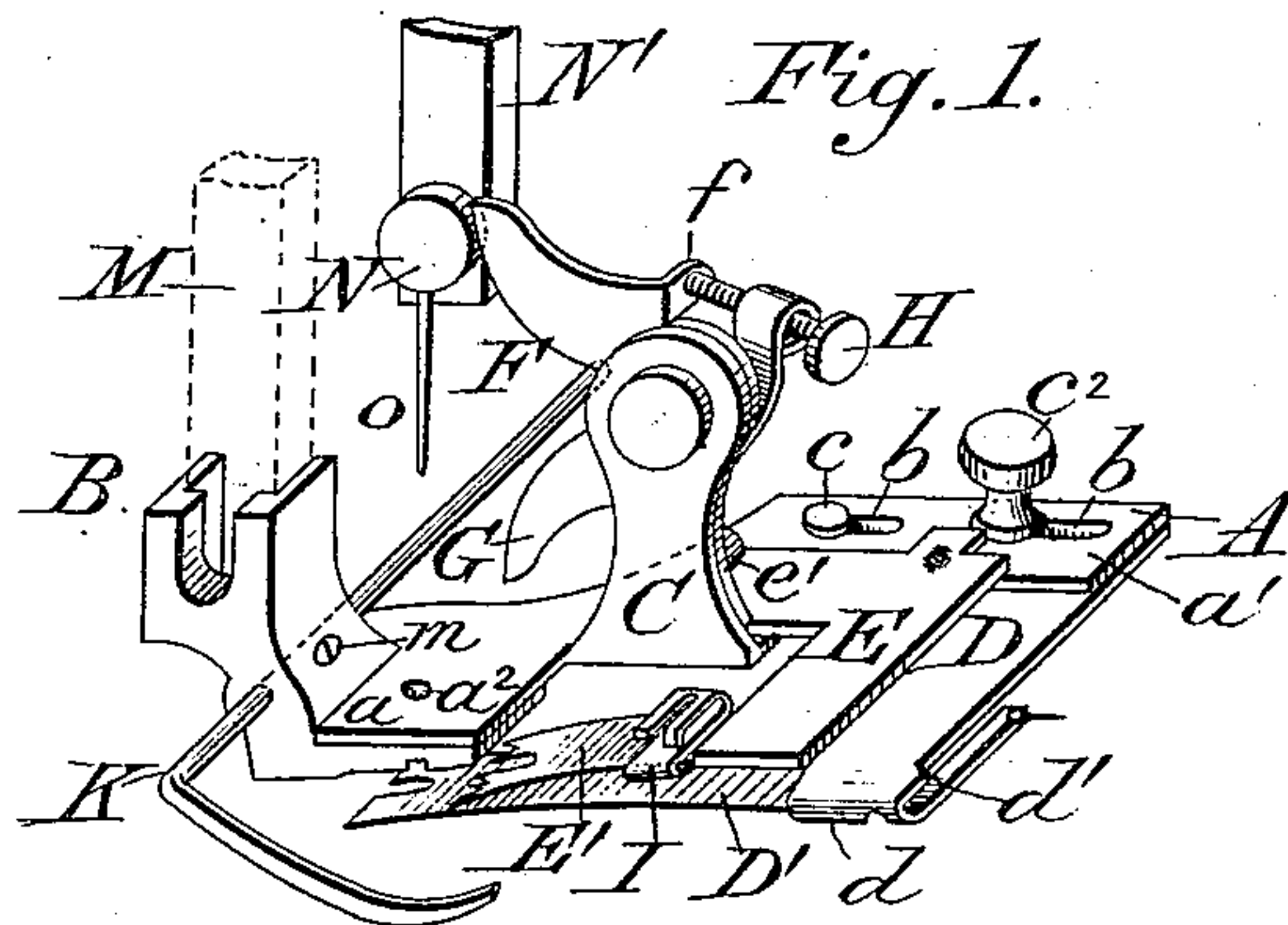


Fig. 2.

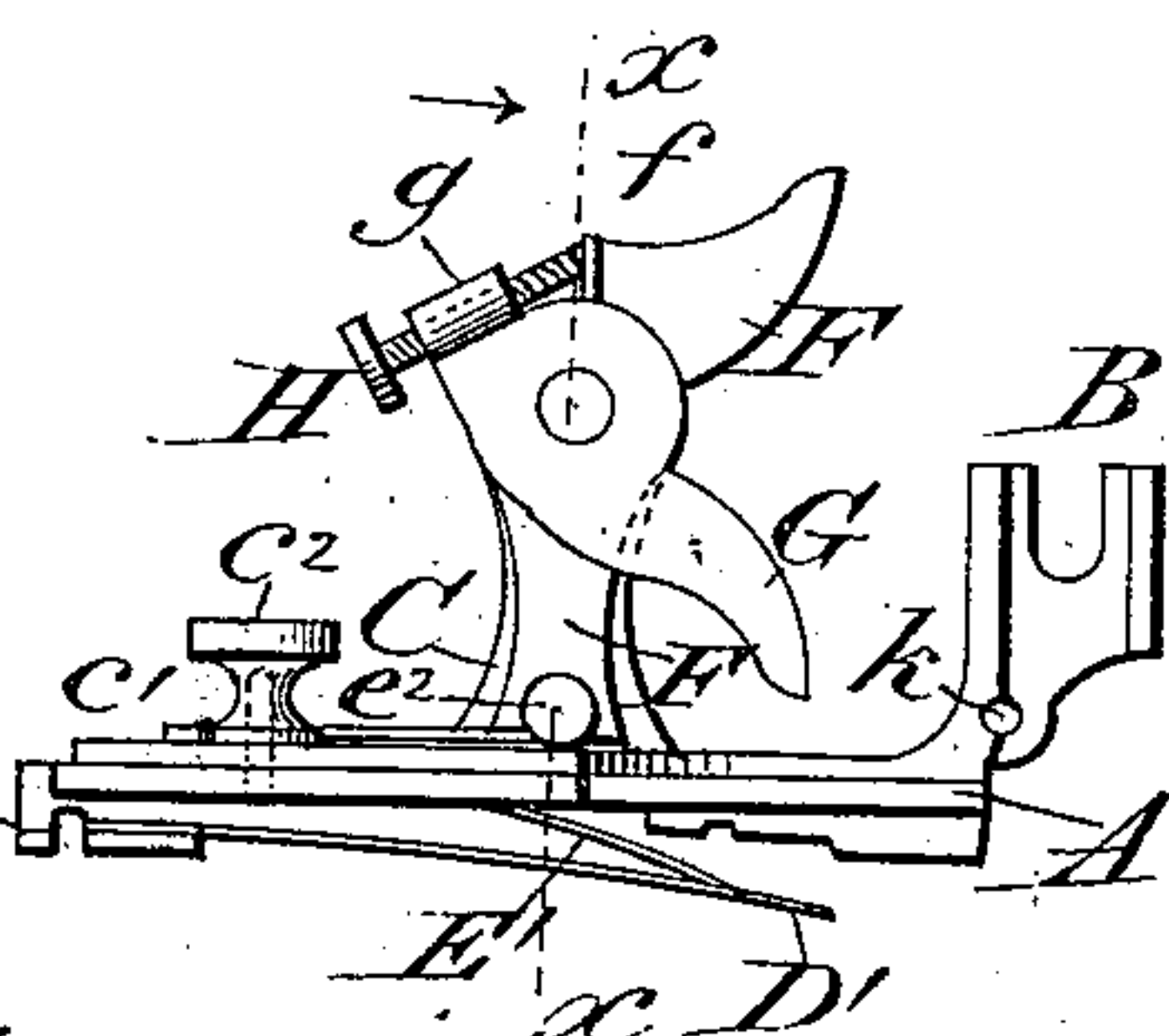


Fig. 3.

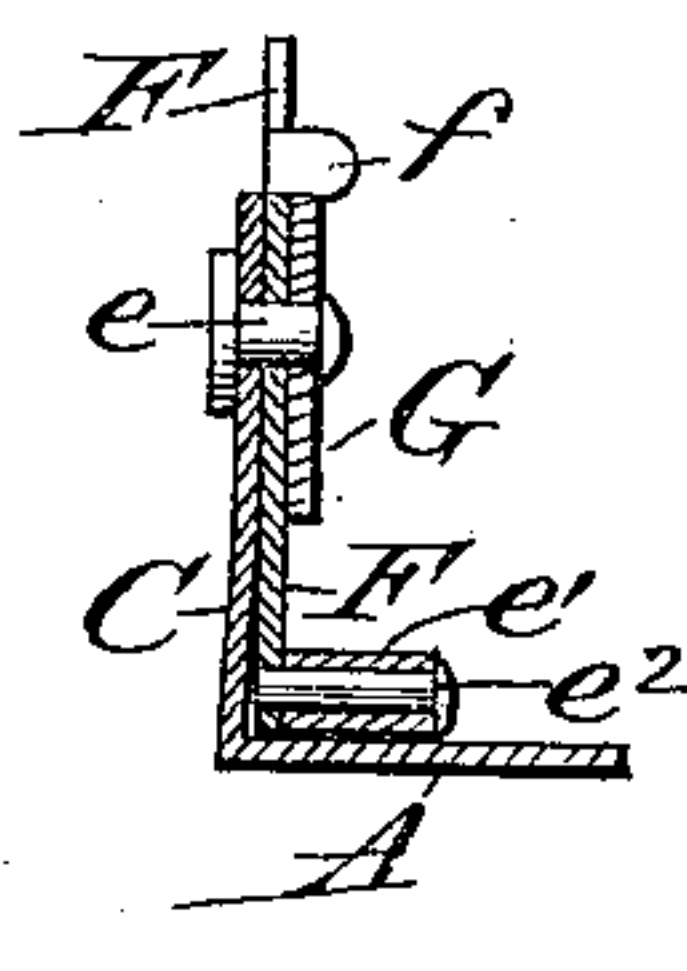


Fig. 4.

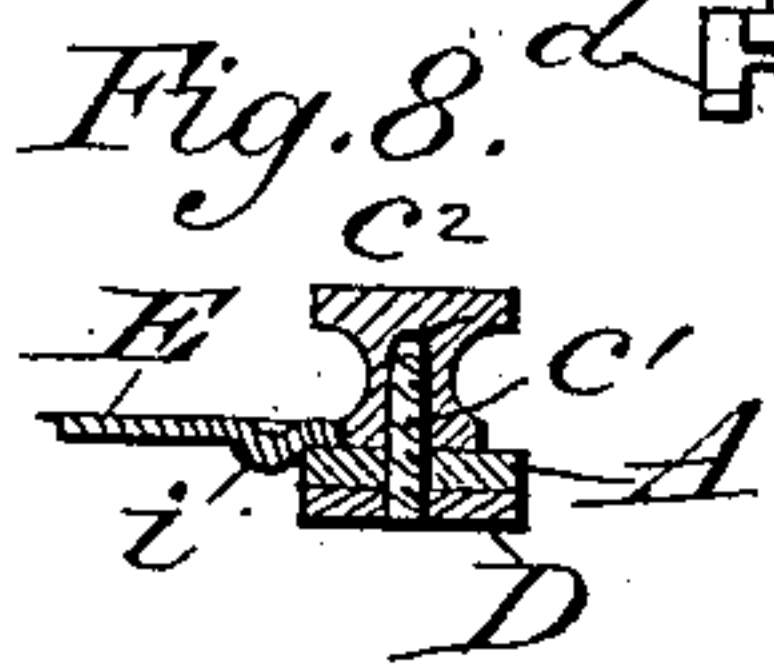
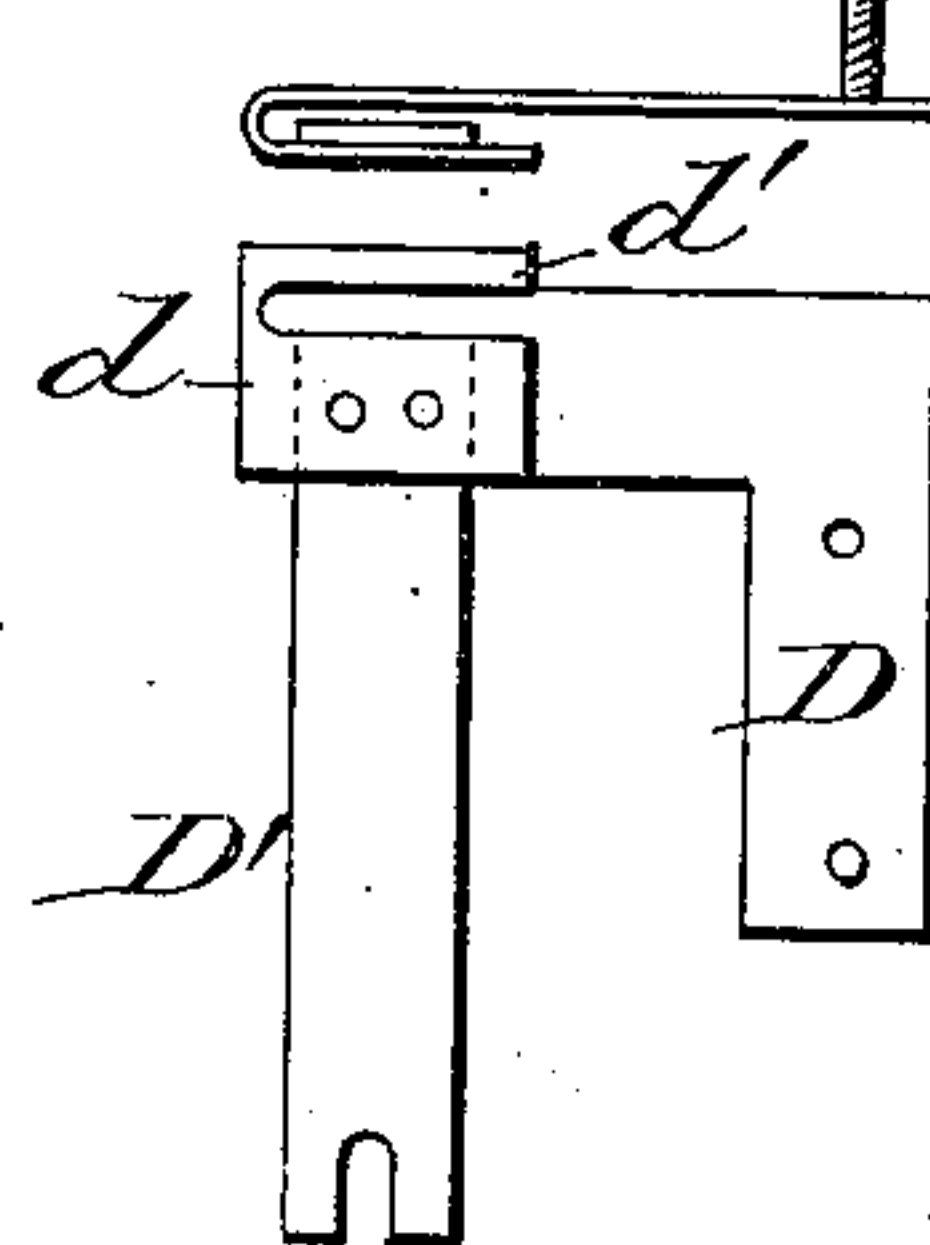


Fig. 5.

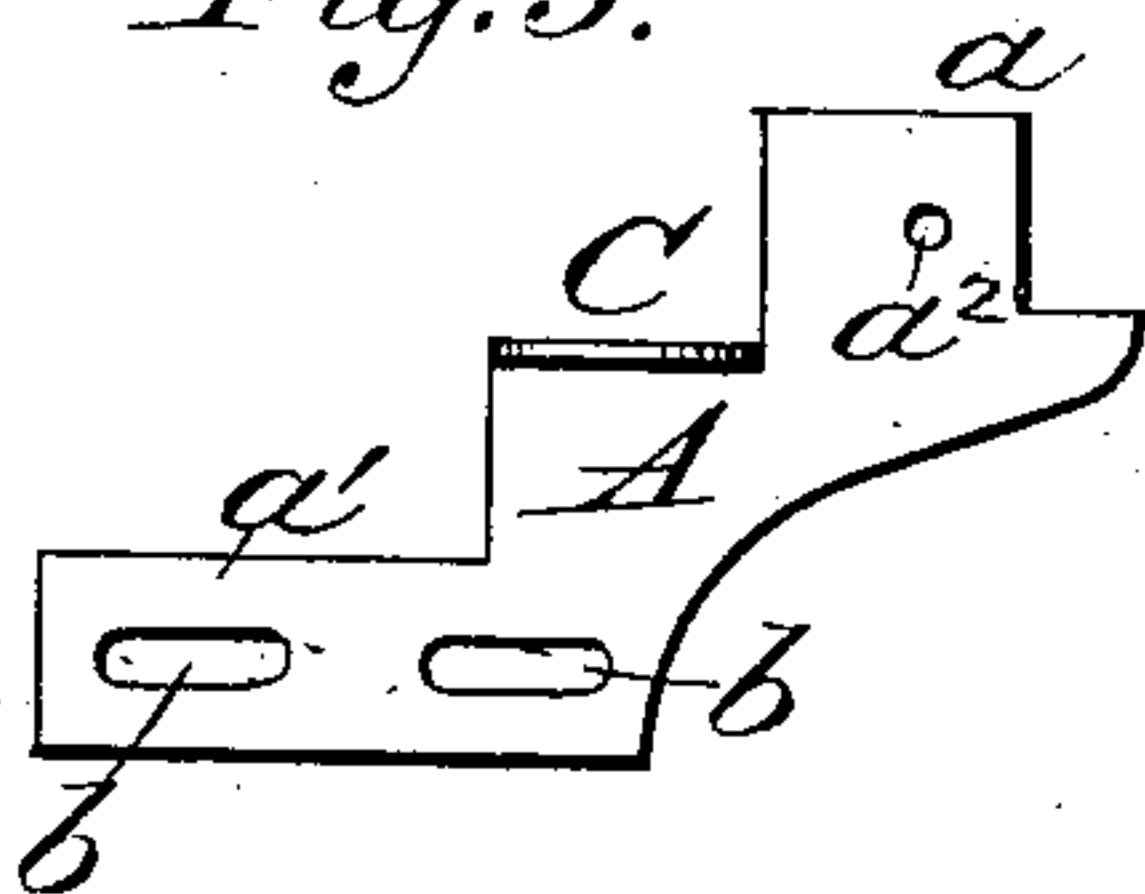


Fig. 6.

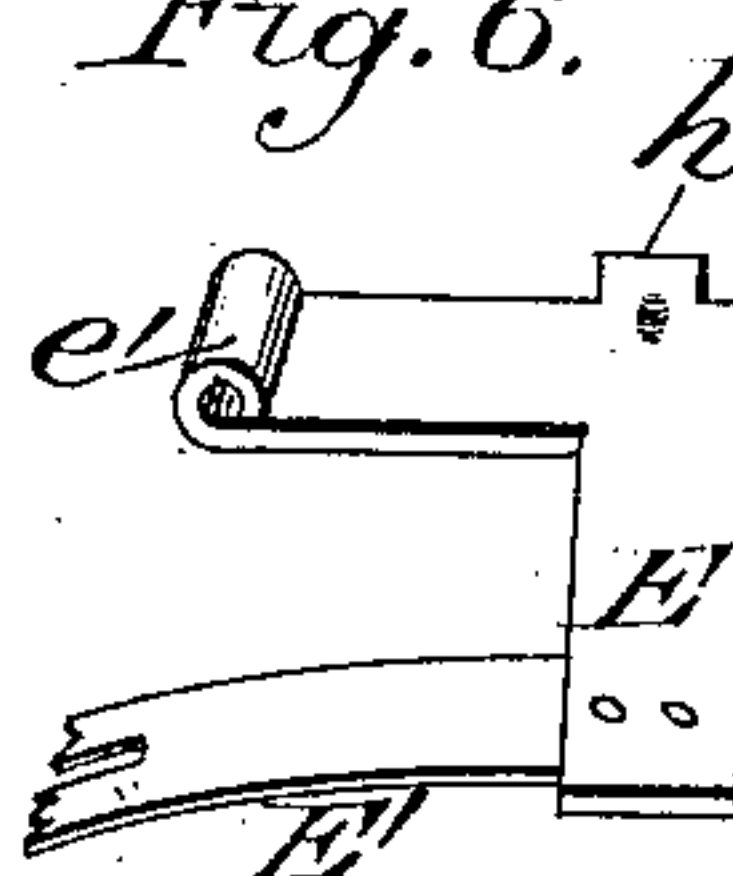


Fig. 7.

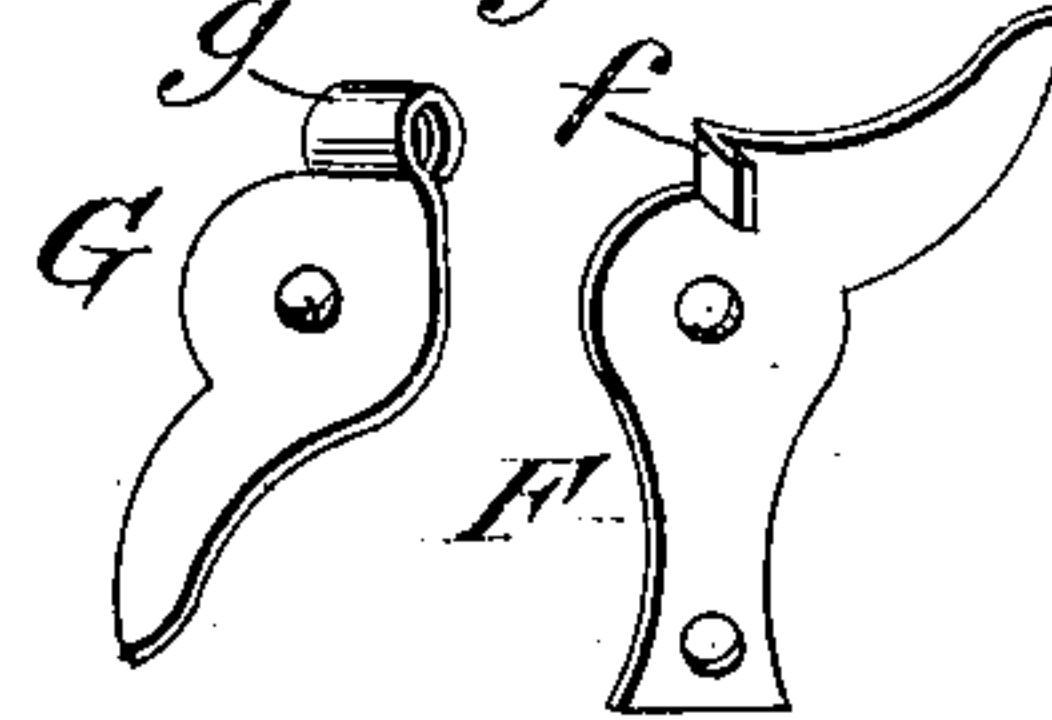
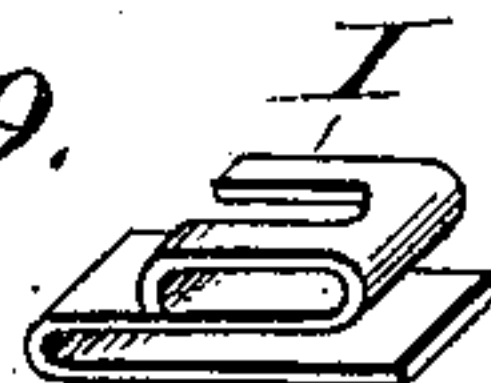


Fig. 9.



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FAY O. FARWELL, OF CRESCO, IOWA.

RUFFLING AND SHIRring ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 254,543, dated March 7, 1882.

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

To all whom it may concern:

Be it known that I, FAY O. FARWELL, a citizen of the United States, residing at Cresco, in the county of Howard and State of Iowa, have invented certain new and useful Improvements in Ruffling and Shirring Attachments for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to ruffling and shirring attachments for sewing-machines; and the invention consists in the construction and arrangement of devices, as hereinafter more fully described and claimed.

15 In the annexed drawings, which fully illustrate my invention, Figure 1 is a perspective view of the attachment, showing its connection with the presser-foot bar and needle-bar. Fig. 2 is a rear elevation. Fig. 3 is a vertical section on the line *xx* of Fig. 2. Fig. 4 represents a section and an under plan of the withdrawing shield-support with its attached blade and gage. Fig. 5 is a plan of the base-plate. Fig. 6 is a view of the sliding plate and attached 20 ruffler-blade. Fig. 7 represents views of the actuating cam-levers. Fig. 8 is a sectional detail, and Fig. 9 represents the upper guide.

Like letters denote like parts in the several views.

30 The letter A represents the base-plate, which is provided with an arm, *a*, for the attachment of the presser-foot B. It is also provided on one side, near its center, with a vertical arm, C, at the upper end of which is pivoted the actuating mechanism of the ruffling-blade.

35 An oblong projection, *a'*, at one end of the base-plate A, is provided with slots *b b*, through which is passed respectively a rivet, *c*, and screw *c'*, for securing the shield-support D to the base-plate in such a manner that the said support and its attached blade D' may be readily adjusted or partially withdrawn from below the sliding plate E and ruffling-blade E', when desired. The thumb-nut *c²* on the screw 40 *c'* holds the parts securely when adjusted in the desired position.

45 The separator shield-support D is provided at one end with a curve or bend, *d*, a portion of which is separated from the rest, forming a guide, *d'*. The separator shield or blade D' is secured to the broad portion of the bend

d. This construction of the shield-support D enables the cloth to be ruffled to be placed in proper position between the blades D' and E', either from the right or left, the narrow portion of the bend *d* forming a guide, *d'*, for the lower band. 55

To the upper portion of the vertical arm C are attached the cam-levers F G, by means of a common pivot, *e*. The lever F is provided at its lower end with a pin or pivot, by means of which it is connected with the sliding plate E, and has near its upper end a shoulder, *f*, against which the end of the adjusting-screw H may be made to rest. This screw has its bearing in a nut formed at the upper end of the cam-lever G. The upper end of the lever F forms a cam through which the lever is actuated by the needle-bar in its upward stroke. The cam or lever G is adjustably secured in contact with the lever F by the pin or pivot *e*, which passes through the arm C and levers F G. This pivot is secured rigidly in the cam-lever G, and rotates in bearings formed in the arm C. The lever F oscillates on the pivot *e* only when the adjusting-screw H is made to bear against the shoulder *f*. It will be seen that the lower end of the lever G forms a cam through which the ruffling-blade is actuated by the needle-bar in its downward stroke. 60 65 70 75 80

The angular sliding plate E, to which is attached the ruffling-blade E', is provided at one end with a nut or ring, *e'*, which forms a bearing for the passage of the pin or pivot *e²*, by means of which said plate is connected with the lower end of the lever F. The angular sliding plate E is also provided with a projection, *h*, near its elbow or bend, which projection is designed to rest upon the projection *a'* of the base-plate, and serves to assist in steadying the sliding plate while being reciprocated. A projection or shoulder, *i*, formed on the under surface of the sliding plate E, also assists in steadying the sliding plate and its attached ruffling-blade while in operation. 85 90 95

The ruffling-blade E' is composed of a strip of spring metal, and is suitably notched and toothed at its free end, which projects toward the presser-foot. A suitable guide, I, is attached to this blade to guide the upper band or piping, when desired. The separator blade or shield D', which is also composed of spring 100

metal and is slotted or notched at its end, is secured to the support D, so as to project toward the presser-foot directly under the ruffling-blade.

5 The presser-foot B has a transverse aperture, *k*, for the passage of an adjustable gage-rod, K, which is used in several varieties of work. This rod is held in any position to which it may be adjusted by means of a screw,
10 *m*, passing into the presser-foot.

This ruffling attachment is applied to the presser-foot bar M, as shown in Fig. 1, and is operated by means of a projection, N, on the needle-bar N'.

15 The cloth to be ruffled is arranged between the ruffling-blade E' and shield D', either from the right or left, as may be convenient, or according to the variety of work to be done. The cloth to be used as the upper band is
20 creased near its edges and the creased edge is placed between the presser-foot B and ruffling-blade E', its edge being guided by the guide I on said blade. The lower band is arranged below the shield D', its edge being guided by
25 the guide *d'*.

When the sewing-machine is put in operation the needle-bar N' reciprocates just to the left of the actuating cam-levers F G. Near the end of its upward stroke the projection N
30 comes in contact with the cam end of the lever F, causing the ruffling-blade E', which is connected with the lower end of lever F by the sliding plate E, to move forward until its teeth project to a certain point behind the needle,
35 said teeth engaging with the cloth under it and causing a fold or plait to be formed, which is held in position by the blade E' until the needle descends through the aperture *a*² in the base-plate and secures it. As the needle-bar
40 descends the projection N comes in contact with the lower end of the cam-lever G, which returns the ruffer-blade E' in position for another fold. While the cloth is being ruffled or gathered in this manner it is also fed along
45 and stitched near the folded edge of the upper band by the needle *o*, working through the aperture *a*² in the base-plate.

By means of the thumb-screw H the cam-lever G is adjusted, in connection with the lever F, so as to regulate the rearward movement of the sliding plate E, and thus limit the throw of the ruffling-blade E', for the purpose of varying the fullness of the ruffle or gather.

By differently arranging the fabrics employed some fourteen different varieties of ruffles may be readily made.

It will be seen that the separator blade or shield D' and its support D are secured in position by means of the screw *e'* and nut *e*², so

that they can be readily withdrawn when required. By withdrawing the support D and blade D' the toothed end of the ruffling-blade E' will come in contact with the fabric or the upper of two fabrics placed under the attachment, thus enabling the operator to ruffle or
60 shirr the upper piece anywhere throughout its entire breadth. Any number of seams may be shirred parallel with each other, the distance between the seams being regulated and guided by means of the gage-rod K, attached to the
65 presser-foot B. This gage is used only in shirring, and may be removed while ruffling.

The advantage of arranging the separator or shield D' so that it may be readily withdrawn will be apparent. The delicacy of the
70 material used in ruffling is often such that the teeth of the ruffer-blade would ruffle the lower band as well as the ruffle, were it not that the band is protected by the separator or shield D'. If this shield could not be withdrawn or
75 removed from below the blade D, a shirr or ruffle could not be made any distance from the edge of the fabric.

It will thus be seen that shirring of all kinds and on any ordinary material can be readily
80 accomplished by means of this attachment.

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

1. In a ruffling or shirring attachment for sewing-machines, the combination, with the base-plate A, having projection *a'* and slots *b*
85 *b*, of the withdrawing shield-support D, having rivet *c*, screw *c'*, and nut *c*², substantially as shown and described.

2. In a ruffling and shirring attachment for sewing-machines, the angular sliding plate E, having projection *h*, shoulder *i*, and nut or ring
90 *e'*, in combination with the base-plate A, levers F G, and blade E', substantially as shown and described.

3. In a ruffling and shirring attachment for sewing-machines, the combination of the base-plate A, presser-foot B, provided with gage-rod K, sliding plate E, having ruffling-blade E',
95 actuated by cam-levers F G, adjusting-screw H, for regulating the throw of said ruffling-blade, withdrawing shield-support D, having guide *d'* and blade D', and the guide I on ruffling-blade, all constructed and arranged substantially as shown and described.

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

FAY O. FARWELL.

Witnesses:

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W. T. IRVINE.