

(No Model.)

C. H. CARTER.
Ruffling and Puffing Attachment for Sewing Machines.

No. 238,086.

Patented Feb. 22, 1881.

Fig. 1.

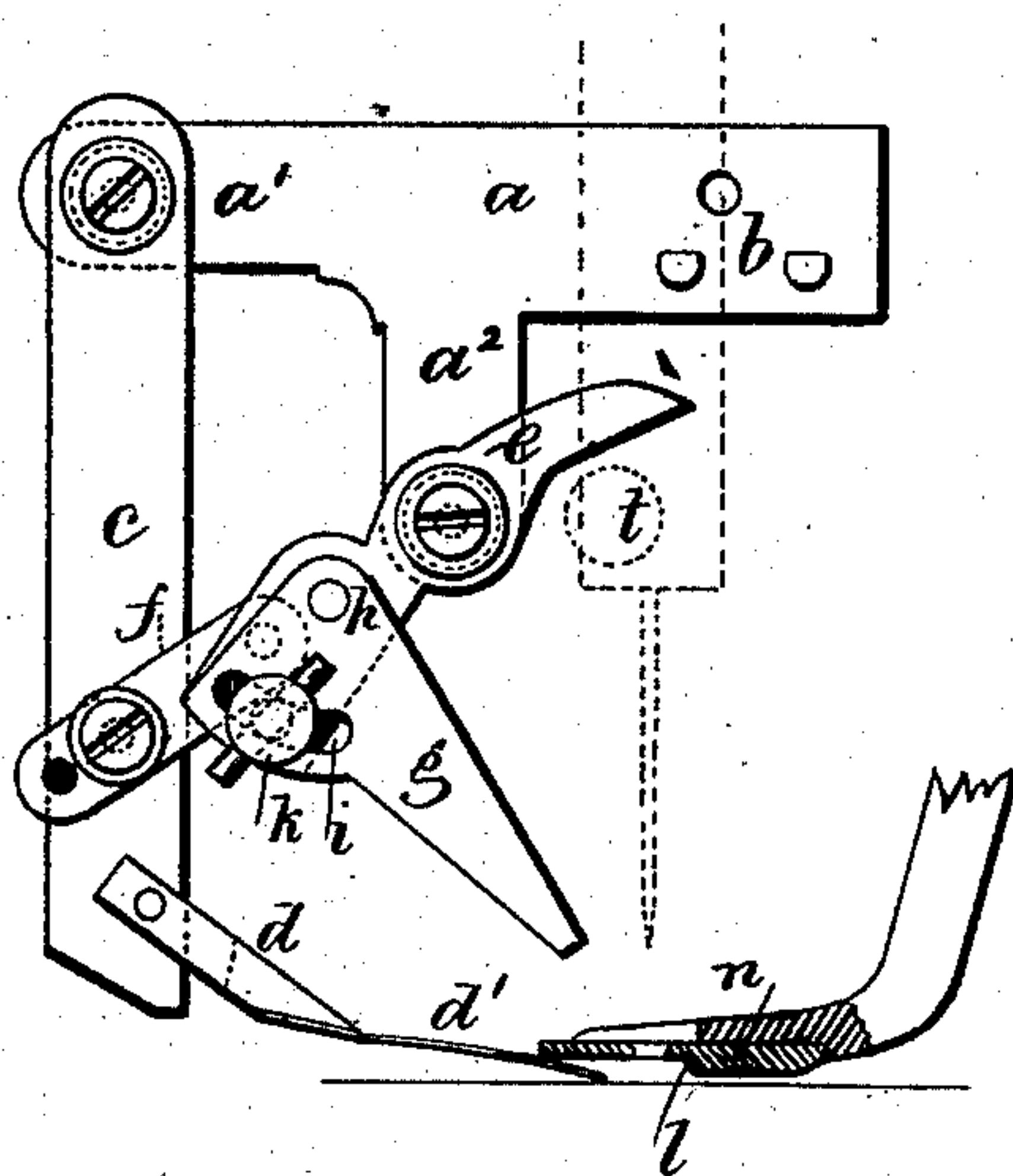


Fig. 2.

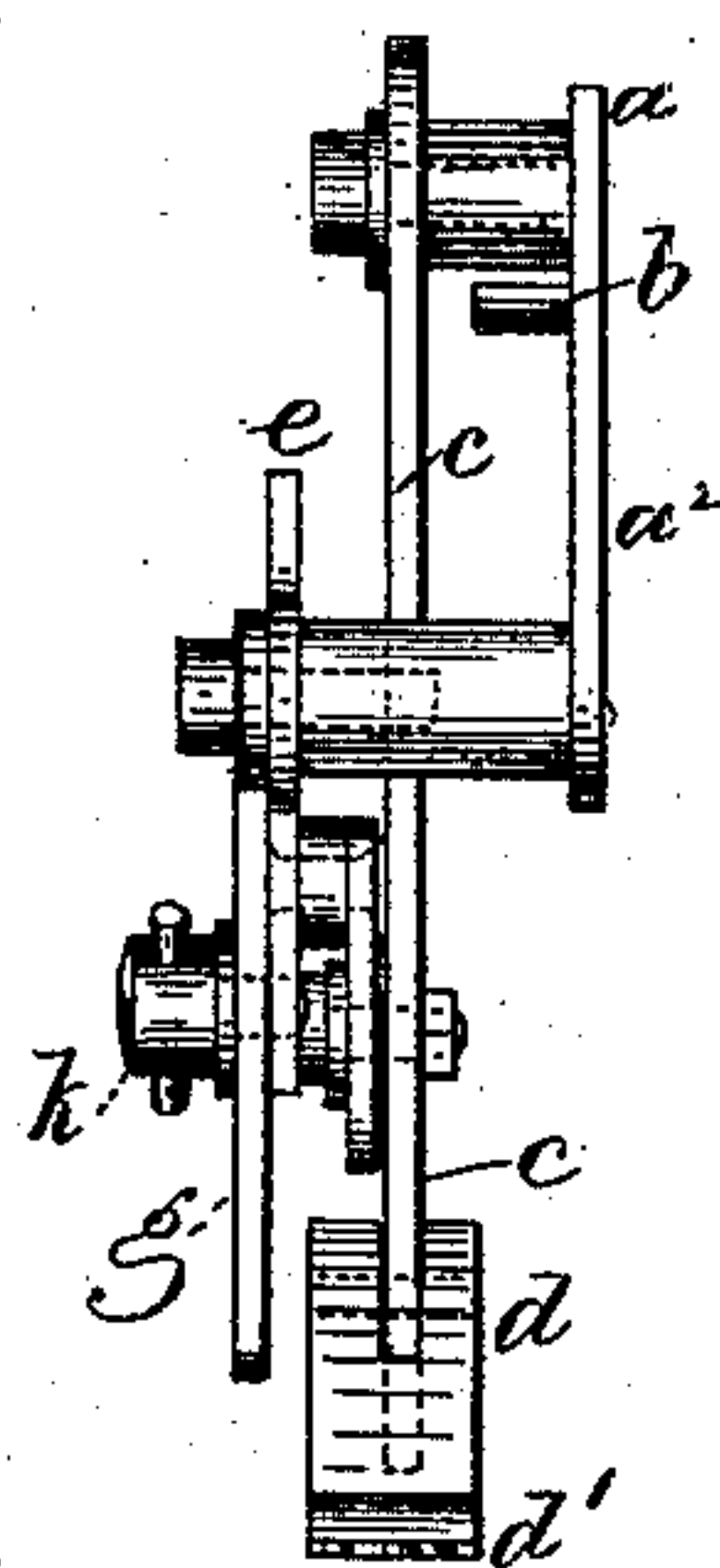
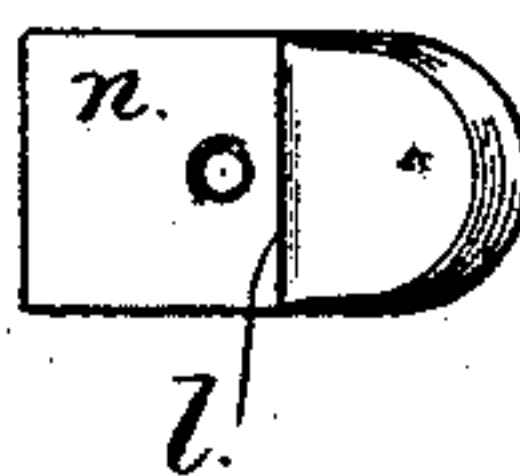


Fig. 3.



Fig. 4.



Witnesses

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RUFFLING AND PUFFING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 238,086, dated February 22, 1881.

Application filed August 9, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. CARTER, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Ruffling and Puffing Attachments for Sewing-Machines, of which the following is a specification.

This device is for puffing or ruffling woven fabrics in the act of sewing the same, so that the sewing secures the small plates together and produces the ruffled or puffed appearance.

Ruffling attachments have been made in which there is a spring presser-foot and a reciprocating folder moving beneath the same, and a plate to cover the ordinary sewing-machine feed.

My invention is an improvement upon that class of attachments whereby the ruffling or puffing may be made in one or more lines at any part of the fabric, and in which the parts that perform the ruffling are entirely above the fabric and receive their support from the head of the sewing-machine, so that the fabric that is being ruffled or puffed may be spread out upon the sewing-machine bed.

My improved ruffling attachment is especially intended for the well-known Wheeler & Wilson sewing-machine; but it is also adapted to machines of the same general character.

In the drawings, Figure 1 is a side view of the ruffler adapted to be secured to the sewing-machine. Fig. 2 is an end view of the same. Fig. 3 is a plan of the spring folder-plate, and Fig. 4 is an inverted plan of the presser-foot plate.

The plate *a* is attached removably to the sewing-machine head by a screw and pins at *b*, and said plate *a* is made with arms *a'* *a*². The arm *a'* has a stud or pivot, to which is secured the upper end of the arm or lever *c*, and the other end of the arm *c* has hinged to it the finger *d* and spring folder-plate *d'*. The arm *a*² has a stud or pivot, to which is attached the lever *e*, one end of which is connected to the lever *c* by the adjustable link *f*.

The lever-arm *g* is pivoted at *h* to the lever *e*, and is slotted at *i*, and there is a thumb-screw at *k* passing through said slot into the arm *e*, and said lever-arm *g* is adjustable thereby, and can be clamped in any desired position

relatively to the arm *e*, so as to determine and regulate the amount of movement given to the parts by the sewing mechanism.

The spring folder-plate *d'* is of thin metal, adapted to pass in between the presser-foot *n* and the fabric. Its end is bifurcated to pass at each side of the needle, as seen in the plan, Fig. 3, and the ends are made with teeth that point slightly downward, so that the reciprocation of this toothed plate feeds or pushes the material along and corrugates or ruffles such material into plaits of greater or less size, according to the extent of motion given to the said folder-plate.

The glass piece or plate used in the sewing-machine presser-foot *l* replace with one of metal at *n*, having the usual needle-hole, and also a projection or offset at *l* on the under side, against which the spring folder-plate *d'* presses the fabric in forming the plaits.

When in operation motion is communicated to my ruffling attachment by a screw or projection on the needle-bar, as shown at *t* by dotted lines in Fig. 1, which in its up-and-down movement comes into contact with and moves the lever *e* and arm *g*, and through them communicates a forward-and-backward movement to the lever *c* and spring folder-plate *d'*.

In some of the ruffling attachments heretofore made a separating-plate is employed between the work and the machine-feed to prevent the operation of said feed. Others, again, dispense with it, and, following these latter, I allow the machine-feed to operate, because it regulates the length of the stitch, and it moves on the fabric during the upward stroke of the needle and the backward movement of the spring folder-plate *d'*, and just before said feed-plate receives its forward movement, and the parts are so arranged and timed that the reciprocating spring folder-plate will push forward and form the plait or fold in the fabric, hold the same while the descending needle makes the stitch, and then recede in time to permit of the free action of the sewing-machine feed in moving along the fabric, and said alternating movement prevents interference of the parts. During the forward stroke of the folder-plate *d'* the machine-feed is depressed below the bed-plate, and in its return movement, while the ruffled or puffed portion of the

fabric is held by the offset *l* of the presser-foot. The plate *d'* is thus free to act in its forward stroke to ruffle or puff the fabric, which is unobstructed by the sewing-machine feed.

5 In making band-ruffling I will employ a separating-plate, attached to the machine-bed independently of and separate from the ruffler, as shown in my application filed July 1, 1880.

10 By moving the arm *g* and changing its angle of inclination I am able to vary the backward movement of the folder-plate with great accuracy, and thereby make the folds or plaits of the fabric larger or smaller. In all cases the folder-plate simply acts to fold the fabric
15 and hold it in position, while the needle passes through the fabric as the ordinary sewing-machine feed acts to move the goods after the needle rises.

20 I make the under surface of the presser-foot with an offset located in the rear of the needle-hole, so that the folder-plate will not have to act also as a feed to the sewing-machine; but it will have room enough to lay the plait correctly beneath the presser-foot, and the sewing-machine acts to feed the fabric between the
25 time the needle draws out of the fabric and its re-entrance into such fabric, and such feed acts upon the plaited fabric that is beneath the offset of the presser-foot. The fabric can be
30 spread out between the ruffling attachment and the bed of the machine, so as to be ruffled or puffed in any part of the fabric.

The sewing is performed in any desired manner, and the line or lines of stitching unite the folds or plaits of the fabric and keep them in
35 their proper relative positions.

In order to guide the fabric and make one line of puffing parallel with another, I employ an ordinary sewing-machine gage at the end of a horizontal rod that passes through a clamp,
40 said clamp being secured to the plate *a* or to the head of the machine.

I claim as my invention—

1. In a ruffling and puffing attachment, the frame *a* and the lever *c*, pivoted thereto and
45 carrying the folder-blade, combined with the lever *e*, adjustable arm *g*, and connecting-link *f*, whereby motion may be imparted to said lever *c* from the needle-bar of a sewing-machine to cause the folder-plate to plait a fab-
50 ric, constructed and arranged substantially as described.

2. The plate *a*, lever *c*, and presser-foot *n*, in combination with the hinged finger *d*, folder-plate *d'*, lever *e*, arm *g*, and link *f*, the parts
55 being constructed and operating substantially in the manner and for the purposes set forth.

Signed by me this 6th day of August, A. D. 1880.

CHAS. H. CARTER.

Witnesses:

GEO. T. PINCKNEY,
WILLIAM G. MOTT.