

L. C. RIGGS.

Sewing Machine Ruffler and Gatherer.

No. 50,164.

Patented Sept. 26, 1865.

Fig. 1

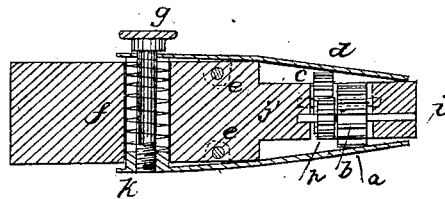
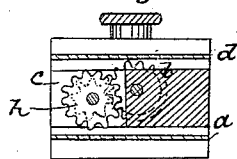


Fig. 2



Witnesses  
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# UNITED STATES PATENT OFFICE.

LEONARD C. RIGGS, OF FLORENCE, MASSACHUSETTS.

## IMPROVEMENT IN RUFFLING DEVICES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 50,164, dated September 26, 1865.

### *To all whom it may concern:*

Be it known that I, LEONARD C. RIGGS, of Florence, in the county of Hampshire and State of Massachusetts, have invented a new and useful Improvement in Rufflers and Gatherers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal vertical section of an apparatus made according to my invention. Fig. 2 is a cross-section thereof.

Similar letters of reference indicate like parts.

The object of this invention is to produce an apparatus to be used upon a sewing-machine for the purpose of making ruffles and gathers in cloth.

It consists in an upper and lower spring-plate which tend constantly toward each other, and which come in contact with spur-wheels that are geared together by means of an intermediary wheel. When two pieces of cloth, one of which is to be gathered, are to be united by sewing, one of them is placed between the lower spring-plate and its wheel, and the other between the upper plate and its wheel, and when the cloth is fed along the upper gear is made to rotate by means of the pressure produced on the cloth by the upper spring-plate, and the lower gear by reason of the small intermediate gear is made to revolve at a higher speed, and thereby ruffle and produce gathers in the cloth, which is held against it by the lower spring.

In the example of my invention here given, the apparatus is placed in or attached to a block, *j*, which may project from the face of the usual guide toward the place of the needle and pressure-foot. The front part of the block is provided with a recess to contain a system of geared wheels, *b c h*, the latter being a small pinion fast on the shaft of the gear *b*, and being driven from the gear *c*. The gear *c* is the highest in position in the block, projecting slightly above it, while the gear *b* projects a little way below it. The part of the block which contains the wheels is cut away on its upper and lower faces, and is therefore of diminished thickness as compared with the hinder portion. The said front part of the block is inclosed between two spring-plates, *d* and *a*,

which are hinged, respectively, on the upper and under sides of the block at *e e*, their leaves extending horizontally toward the end of the blocks, so as to inclose the wheels between them. The spring-plates are so applied that they press against the wheels, and so when cloth or other substances are interposed they will press the same against the peripheries of said wheels. The hinder ends of said springs extend toward the back part of the block, and are forced apart by means of a spiral-spring, *f*, set in an opening made through the said block. By means of said spring the leaves or front part of the spring-plates are kept constantly closed upon the wheels. The pressure of the said spring-plates is diminished and the action of the said spring *f* controlled by means of a screw, *g*, which passes through the back part of the upper plate, through the coils of the spring *f*, and into a hub, *k*, formed on the inner end of the lower spring-plate, *a*, said hub being received into the opening made in the block for the spring *f*, and forming the bed on which the bottom of the spring rests. When the screw is turned in the proper direction to draw the hinder ends of the plates toward each other, it is evident that their leaves will be lifted or drawn away from contact with the wheels. In that condition layers of cloth or other material which may pass between them and the block will not act on or be acted upon by the wheels; but when they are in the condition seen in Fig. 1, the cloth which passes between the leaf *d* and the wheel *c* will cause that wheel to be rotated step by step with the speed of the feed of the machine, while the lower wheel, *b*, being speeded up by means of the pinion *h*, will move at a higher velocity than the wheel *c*, and will consequently drive the layer of cloth or other material which is between it and the spring *a* at a speed greater than that of the feed, and therefore will cause such cloth to be ruffled and gathered between the block and the pressure-foot. Such gathers will be secured by the successive stitches made by the needle.

It is evident that the measure or fineness of the gathers thus made depends on the relations established between the wheels.

I disclaim the invention patented by Isaac W. Singer, March 18, 1856; and it will be observed that my device is distinct from the feeding wheel or wheels or other feeding de-

vices of a sewing-machine. The device which I employ is not the feeding wheels or devices of a sewing-machine, nor does it take the place of a feeding device to feed the material which is being operated on, but on the contrary is independent thereof, and is itself put in action and operated by the movement of the material.

I claim as new and desire to secure by Letters Patent—

1. A ruffler and gathering device for use on sewing-machines which is distinct from and independent of the feeding device and which

does not feed the material, but which is operated by the movement of the material in sewing, constructed and operating substantially as shown and described.

2. In combination, the geared wheels *c*, *h*, and *b*, with the spring-plates *a* and *d*, for the purpose of ruffling and gathering cloth when being sewed, substantially as described.

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Witnesses :

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