

C. O. CROSBY.

Sewing Machine for Making Ruffled Fabrics.

No. 50,225.

Patented Oct. 3, 1865.

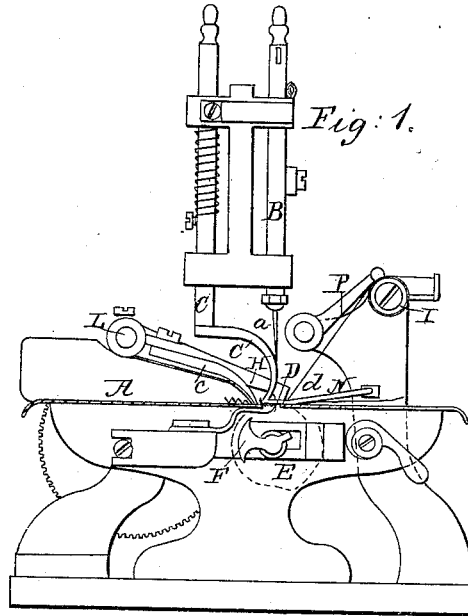


Fig. 2

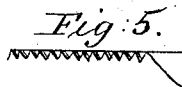
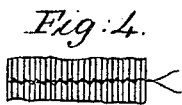
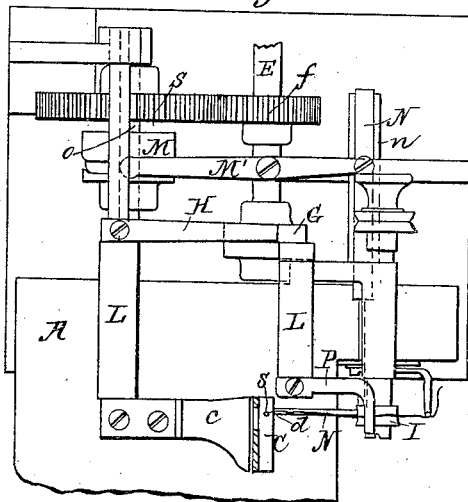


Fig. 3.

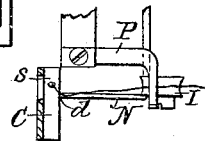
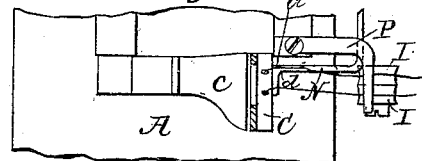


Fig. 6



Witnesses.

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# UNITED STATES PATENT OFFICE.

C. O. CROSBY, OF NEW HAVEN, CONNECTICUT.

## IMPROVEMENT IN SEWING-MACHINES FOR MAKING RUFFLED FABRICS.

Specification forming part of Letters Patent No. **50,225**, dated October 3, 1865.

*To all whom it may concern:*

Be it known that I, C. O. CROSBY, of New Haven, in the county of New Haven and State of Connecticut, have invented new and useful Improvements in Ruffling-Machines; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, when taken in connection with the accompanying drawings and the letters of reference marked thereon, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a partial view and section of a Wilcox & Gibbs sewing-machine with my ruffling apparatus attached; Fig. 2, a plan or top view of the same; Fig. 3, a change of position of the thread-guide from that shown in Fig. 2. Figs. 4 and 5 illustrate the gathered fabric and the course of the threads as produced by the operation of the ruffling apparatus; and Fig. 6 the same apparatus as shown in Fig. 2, with an extra needle added for making two lines of stitches.

My invention is designed for the manufacture of the "machine-shirred ruffle," for which Letters Patent were granted to me bearing date the 5th day of May, 1863, and is briefly described in the specification accompanying the said Letters Patent.

The object of my invention is (as set forth in the said Letters Patent) to produce a ruffle similar in appearance to that formed by hand by the operation known as "gathering," but without the unavoidable irregularity in the "shirrs" or "gathers."

To enable others skilled in the art to make and use my machine, I will proceed to describe its construction and operation.

I prefer to attach my shirring apparatus to the sewing-machine known as the "Wilcox & Gibbs" machine, patented to J. E. A. Gibbs June 2, 1857, and partially represented in Figs. 1 and 2.

A is the cloth-plate; B, the needle-bar; *a*, the needle; C, the presser-foot; D, the feed; E, the driving-shaft; F, the looper. These are all substantially the working parts of the said machine, to be threaded and operated in the usual manner. To these working parts of the original machine I add a rock-shaft, L, worked by a cam, G, through a lever, H.

*c* is a stop or clamp fixed to the said rock-shaft, and the point or foot of which falls upon the cloth-plate directly back of, but a little distance from, the presser-foot C.

I is a roller, around which I pass a second thread, as denoted in red, thence down and under the presser-foot, as represented in Figs. 1 and 2.

N is a rod or bar sliding in proper bearings, *n*, and actuated to move forward and backward by means of a cam, M, through the lever M'. The said bar N carries in its end an eye, *d*, through which the second thread, before referred to and denoted in red, passes before being placed under the presser-foot, as shown in Figs. 1 and 2.

O is a shaft, in which the cam M is placed, and it revolves in proper bearings, making one revolution to every two revolutions of the driving-shaft E, by means of cog-wheels *f* and *g*. This is done for the purpose of carrying the second thread first to one side of the needle and then to the other, so that each stitch made crosses the second thread and will present the appearance as shown enlarged in Fig. 4.

P is a check fixed to the rock-shaft L, and operated by the cam G on the shaft E to act upon the roller I, so that, when required, the check P will press upon the roller and hold it (the roller) to prevent more of the second thread than is needed being drawn from the spool, as more fully shown hereinafter.

My machine being now complete, I will proceed to describe its operation. I take a strip of fabric which has been previously hemmed upon one edge. I introduce one end of the said strip under the presser-foot in the ordinary manner for sewing, taking care to secure the end of the second thread, so that the needle will pass down to one side of the said thread. I now start the machine. The needle goes down on one side of the second thread, as seen at *s* in Fig. 2, and in a full revolution forms one stitch as the needle rises and leaves the fabric, and before it again enters the fabric the second thread will, by the mechanism before described, be carried over to the opposite side of the needle so far (as see Fig. 3) that the needle will, in its second descent, enter the fabric upon the opposite side of the second thread to its first entrance. Thus the second stitch will be

formed across the second thread, (see Fig. 4, where the black line denotes the stitches and the red line the second thread.) The tension of the two threads must be such that the upper or second thread will lie entirely upon the upper surface of the fabric. The second stitch being completed, and before the needle enters for the third stitch, the second thread will have been carried back to its first position in Fig. 2, causing the stitch to cross it (the second thread.) As the stitches are formed alternately, crossing the second thread, the strip of fabric is fed along, stitch by stitch, in the ordinary manner until the first stitch reaches the stop or clamp *c*, which said clamp, at the instant the feed commences to move the fabric, (after the fabric has reached the said clamp,) must press upon the fabric, and at the same instant the check *P* must be applied to the second thread. The result is that as the fabric is held under the clamp *c*, and the second thread also held firmly, the feed will cause the stitches made to slip upon the second thread, and as there is nothing to hold down the fabric for the space of one stitch between the clamp and presser-foot, the fabric will "full up" into that space and form one shirr. After this is properly formed, and before the feed is complete, the clamp *c* rises from the fabric, and at the same time the check *P* rises from the second thread and the feed carries the fabric and second thread with it to complete its (the feed's) movement, the feed returns, and in its next

forward movement forms a second shirr in like manner as the first was formed, and so on, each and every shirr being exactly like the preceding one, and variable in proportion as the clamp or stop is allowed to remain for a greater or less portion of the entire feed. These shirrs are shown in Fig. 5 enlarged, but not quite closed. The red line denotes the second thread, the black the stitches or needle-thread, and the blue the fabric. If I require two needles, as denoted in Fig. 6, I also require two second threads. For this purpose I form two eyes, *d*, in the second thread-carrier, making the presser-foot check and roller proportionately broad, as seen in the said Fig. 6. Otherwise the machine is the same.

Having, therefore, fully described my invention, what I desire to secure by Letters Patent, is—

1. The combination of the check and carrier for the second thread, substantially as and for the purpose specified.

2. The combination of the check and carrier for the second thread with a sewing mechanism, substantially as and for the purpose set forth.

3. The combination of the carrier for the second thread, feeding mechanism, and clamp, substantially as and for the purpose described.

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Witnesses:

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