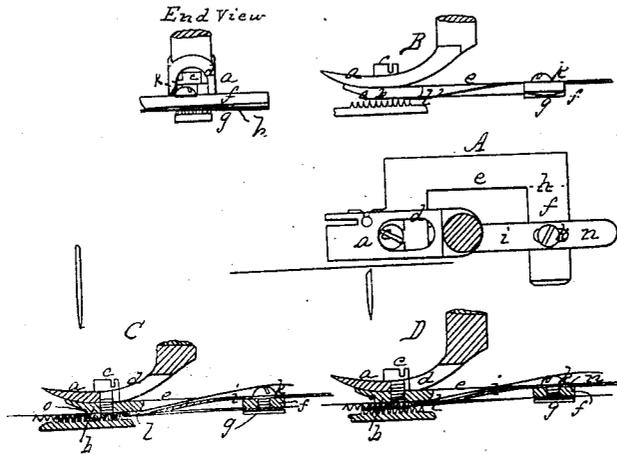


T. K. REED.

GATHERING DEVICE FOR SEWING MACHINES.

No. 67,582.

Patented Aug. 6, 1867.



Witnesses
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T. K. REED, OF EAST BRIDGEWATER, MASSACHUSETTS.

Letters Patent No. 67,582. dated August 6, 1867.

IMPROVEMENT IN GATHERING-DEVICE FOR SEWING MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, T. K. REED, of East Bridgewater, in the county of Plymouth, and State of Massachusetts, have invented an improved Gathering-Device for Sewing Machines; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

The object of this invention is to so construct and arrange upon a sewing machine a device for producing gathers that they may be formed accurately and expeditiously without the manipulatory aid of the operator, the gathers being produced in the under piece of cloth, and stitched in regular succession to the upper piece, without puckering said upper piece, or at all marring the evenness and regularity of the stitches.

The invention may be stated as consisting in the peculiar construction of the device, and in its arrangement relatively to the presser-foot, to which it is connected.

The drawings represent a device embodying the invention, showing its connection to the presser-foot, and illustrating its method of operation in connection with the feed, and with part of the stitch-forming mechanism.

A shows a plan of the presser-foot and the gatherer. B, a side elevation of the same. C and D, sections in line of the needle and the seam, showing respectively the extreme forward and back positions of the feed-teeth relatively to the presser-foot and gathering-device. The gatherer is shown as applied to the common presser-foot of a "Florence" sewing machine. *a* denotes the presser-foot; *b*, a shoe fastened to the bottom of this foot by a screw, *c*, passing through a slot, *d*. The foot extends back, and has an arm, *e*, the inner face of which may form an edge-guide for the upper piece of cloth. From this arm extends an elbow, *f*, to the under surface of which is applied a thin plate-spring, *g*, which presses up against the front end of the elbow, or holds the under piece of cloth up against the same, said under piece being passed between the spring and elbow, and its edge being guided against a shoulder, *h*, in line with the inner edge of the arm *e*. The upper piece of cloth passes over the elbow *f*, inside of the arm *e*, and under the shoe *b*, passing between said shoe and a spring, *i*, the stress of which spring presses the cloth up against the shoe. This spring is attached to the elbow *f* by a screw, *k*, and its front end or tongue *l* projects to such distance under the shoe that, when the feed-teeth, before their advance movement, rise up against or towards the shoe, the rearmost teeth come against the tongue, while when they move forward the first part of their movement is against this tongue, and the latter part in front of them or independent therefrom. The spring is fastened to the elbow by the screw *k*, which, by means of a slot, *n*, in the spring, enables the tongue *l* to be adjusted in position relatively to the shoe *b*, or so that the feed-bar shall have a greater or less amount of movement against or directly under the tongue, and a correspondingly greater or less amount of movement in front of the tongue.

When the device is used, the upper piece of cloth is passed between the tongue and the shoe, with its edge against the guiding edge of the arm *e*; and the lower piece of cloth, in which the gathers are to be produced, is similarly passed between the spring *g* and the elbow *f*, with its edge against the shoulder *h*, in line with the edge of the upper piece. The gatherer being applied to the presser-foot of the machine, and the pieces of cloth being relatively so disposed, and the machine put into operation, it will be readily seen that the two pieces of cloth are held separate from each other until they pass beyond the tongue *l*; and that when the feed-bar rises against the cloth it will at first act only against that piece which is below the tongue, and will feed this alone until the teeth pass beyond the tongue; and that it will then press both pieces together against the shoe *b*, and during the remainder of its forward progression will feed both pieces of cloth as one. The path of movement of the needle is at some distance in advance of the tongue *l*; and to facilitate the drawing in or tightening of each stitch through its gather an offset, *o*, is made in the shoe, just in line with the needle, so that when the stitch is being drawn in the work is released from the cramp of the shoe and feed-bar, leaving it to such degree loose that the thread may readily be drawn tight.

The action of the gatherer in connection with the feed-bar is as follows: The feed-bar in rising first presses the lower cloth against the tongue *l*. As it then advances it feeds the lower cloth along until its teeth pass beyond the tongue. Then it feeds both pieces together, (both being pressed against the surface of the shoe *b*;) and the excess of feed of the lower cloth over that of the upper produces the gathers required, the amount of this excess, or the quantity of cloth put into each gather, (relatively to the length of stitch,) being determined by

the position of the tongue with reference to the shoe, (and feed-bar,) this position being regulated by the screw *k* and slot *n*. The length of stitch is regulated by any one of the ordinary methods. It will readily be seen that no disturbance in the feed of the upper cloth takes place, such feed being effected in the ordinary manner, excepting in that it does not begin until after the lower cloth has been fed some distance. The spring *g* bites upon the lower piece of cloth at or near its outer end only; and this bearing point is outside of the line of feed, so that the tendency is to keep the edge of the cloth swung up against the shoulder *h*; and, as the two pieces are joined at the needle, this position of the lower piece will control that of the upper, or will keep the two corresponding edges in line.

Instead of applying the gathering-device to the presser-foot it may be applied directly to the table or work-supporting surface, and the specific construction may be otherwise varied without departure from my invention, the essence of which is in so constructing and arranging the instrument that the feed-stroke is partly against one piece of cloth alone, and partly against both pieces in connection; but, though the construction and application of the device may be modified, I consider that shown to be the most efficient.

I claim—

1. A gathering-device having a spring bearing-point outside the line of feed to deflect the cloth against a straight-edge inside the line of feed.
2. The combination of such spring bearing-point with a separator, as described.
3. The combination, in a gathering-device, of a separator, a spring bearing-point outside the line of feed, and a straight-edge, for the purposes set forth.
4. A gathering-mechanism so constructed as to be attachable to the presser-foot, and provided with a bearing-point outside the line of feed.

Witnesses:

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