UNITED STATES PATENT OFFICE.

HELEN A. BLANCHARD, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN ELASTIC SEAMS FOR GARMENTS.

Specification forming part of Letters Patent No. **162,019**, dated April 13, 1875; application filed March 11, 1875.

To all whom it may concern:

Be it known that I, HELEN A. BLANCHARD, of Boston, Massachusetts, have invented an Improvement in Elastic Seams for Garments, of which the following is a specification:

Lock-stitch machine-sewing upon goods which have a give to them, have not hitherto been a success for the better qualities of work, because of the lack of elasticity of the stitch; for instance, knit goods, and, to a great extent, custom-made pantaloons, are mostly sewed by hand, because, hitherto, lock-stitch machine-sewing has not been elastic enough.

I have invented a method of sewing the same with a lock-stitch machine, giving an elastic stitch of equal strength with the common stitch, and the following description sets forth the means of making the stitch, and the necessary arrangement of the sewing-machine in the work.

This stitch can be sewed on any of the ordinary lock-stitch sewing-machines by a slight manipulation of the tension to suit the material worked on, and an alteration of the needle, as will be explained.

The stitch itself is constructed with one elastic thread, preferably of rubber, in combination with any ordinary thread. This arrangement furnishes the requisite degree of elasticity to the completed stitch.

The rubber thread is best applied from the shuttle, in which case a moderate tension is desirable. If, however, the rubber thread is fed by the needle, the eye of the needle must be somewhat enlarged, and made to bulge outward toward the center, to assume an elliptical form, and the edges must be rounded, to prevent the cutting of the rubber thread while under tension. I have also used a needle having a square eye with perfect success.

In the drawings, Figures 2 and 3 are perspective views of elastic fabrics stitched in the manner described, the shuttle-thread *a* being of rubber, and the other thread *b* of any ordinary fibrous material to correspond with the work sewed on. Fig. 1 is a perspective view of a modification of the elastic stitch, more properly an elastic binding, the rubber thread *a* being fed by hand, and overstitched by an ordinary overseaming machine. Fig. 4 is a perspective view of the elastic stitch when set by the overstitch machine, the rubber thread *a* being fed from the shuttle.

This drawing more particularly shows the adaptation of the stitch in binding the edge of materials which are elastic, or possess give, or are particularly liable to ravel or fray, making, substantially, a selvage edge to the fabric.

The rubber thread, besides furnishing the requisite degree of elasticity, rendering machine lock-stitching applicable to any elastic material, will not draw, owing to its peculiar resilient nature, when used as a cord in binding, or when fed from the shuttle of an overstitch machine, but will give sufficiently to accommodate the stitch to the line of strain which, in various textile fabrics of loose weaving, as also in knit goods, is of great importance. In certain instances, when a great degree of elasticity is necessary, each thread may be of rubber, the needle as well as the shuttle thread, but the instances of such use would be exceptional.

I claim and desire to secure by Letters Patent of the United States—

The elastic seam, having one thread of rubber and the other of ordinary sewing thread, substantially as described.

HELEN A. BLANCHARD.

Witnesses:

JOHN BIGELOW,

F. F. RAYMOND.