UNITED STATES PATENT OFFICE.

HELEN A. BLANCHARD, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN ELASTIC GORINGS FOR SHOES.

Specification forming part of Letters Patent No. **167,732**, dated September 14, 1875; application filed August 19, 1875.

To all whom it may concern:

Be it known that I, HELEN A. BLANCHARD, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Elastic Goring for Shoes, &c.; 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 which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in an elastic goring made by a sewing-machine, of any suitable material, by sewing a series of rows of stitches with one ordinary sewing-thread and one rubber thread, the latter being subjected to a strong tension, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make the same, I will now proceed to describe the mode of making the same, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a front view of my elastic goring. Fig. 2 is a rear view of the same. Figs. 3 and 4 show detached parts thereof.

To make my elastic goring I use rubber thread *a*, preferably, in the shuttle, and ordinary sewing-thread *b* in the needle, and the sewing is done in the ordinary manner on leather, cloth, worsted, or any other suitable fabric, A.

By subjecting the rubber thread *a* to a strong tension a seam is made, wherein the rubber is distended, and has a continued tendency to draw back upon itself, and shorten the seam. This, when applied to the proper materials, makes them gather and draw up, and acquire the characteristic of elastic goring. The amount of gather depends upon the tension of the rubber thread while being sewed; and for a highly-elastic goring soft and light material, like glove, calf, and sheep skin for leather goods, and all kinds of knit and worsted, also woolen or cotton for cloth, are preferable.

When a goring of this character is to be cut or divided one or more rows of plain stitching across the elastic seam in a direction across or angular to its line of elasticity answers every purpose of securing the ends of the rubber thread, which will be exposed, and preventing its resilient properties from injuring the goring.

This goring is very durable, and can easily be repaired. In leather goring it can never be stretched beyond its normal length before being gathered, and as this is less than the length to which the rubber thread could be stretched, it follows that the rubber thread can never be unduly strained. The rubber thread is protected by embedding itself in the gathers of the leather.

Another advantage is that this goring can be made a part of the very material on which its use is desired without being made separate, and afterward united. For instance, if a goring is desired over the instep in a shoe the upper of the shoe can be gored where desired. The same with the side pieces, and in this manner cumbersome seams can be avoided.

This invention may be used on any fabric or material where it can be applied, and for any purpose desired.

Sometimes on light materials, where even gathers are required, I find a "spreader" desirable. The spreader can be of any convenient make, suitable to clamp and hold the material to be sewed, so that it cannot be acted upon and gathered by the rubber until sewed and released.

I have sometimes crimped the leather previously to sewing. This has a tendency to assist the material to draw up in regular gathers. The same effect can be accomplished by using a wheel-feed and wheel presser-foot, both suitably geared and set so as to engage one another.

By this means the crimping is done as each stitch is made, and the tension on the rubber thread be measurably reduced.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

An elastic goring, consisting of a rubber thread and a sheet of material, united by a sewing-thread, substantially as and in the manner described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HELEN A. BLANCHARD.

Witnesses:

FANNIE M. MERRILL,

WM. LAWRENCE BIGELOW.