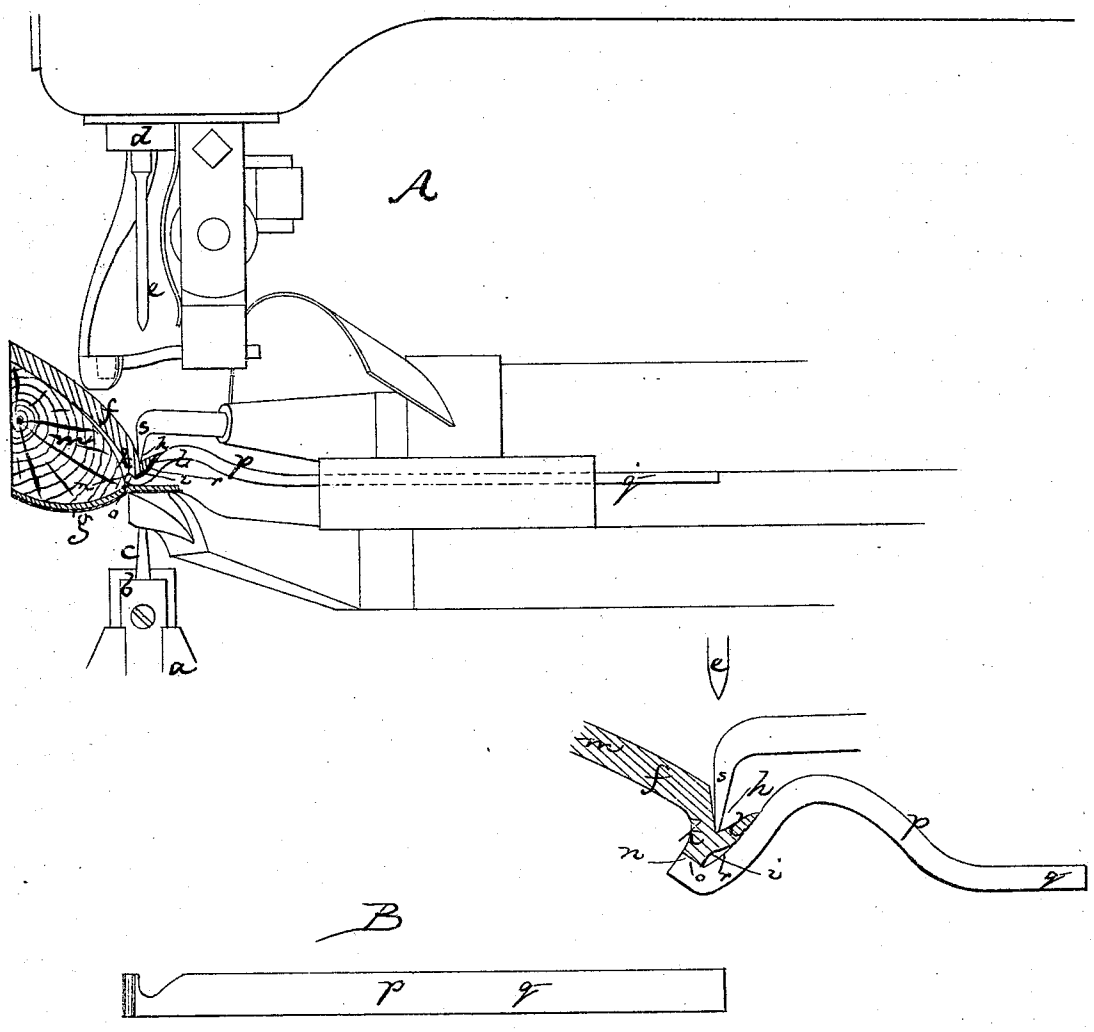
HENRY S. VROOMAN.

Sewing-Machine.

No. 127,662. Patented June 4, 1872.



Witnesses.
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UNITED STATES PATENT OFFICE.

HENRY S. VROOMAN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SEWING-MACHINES FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. 127,662, dated June 4, 1872.

To all whom it may concern:

Be it known that I, HENRY S. VROOMAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Machines for Sewing Boots and Shoes; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates to the process of sewing that class of shoes known as turns, in which—the shoe being made without an inner sole—the upper and outer sole are united by a series of stitches passing through the outer sole at the edge thereof and through the edge of the upper or vamp, the shoe being wrong side out in the process of uniting, and being subsequently turned to finish the shoe. In the usual or most common methods of uniting the parts by mechanism the inner face of the sole is formed with a gash or channel, cut with an inclination toward the edge, while at the edge the upper surface is cut away in such manner as to leave an edge of uniform thickness to form the finished outer edge of the sole. In my method of uniting the soles and uppers I use such soles, and before applying the sole to the last, or before commencing to unite the parts, I mold the edge, or bend it outward in the direction of the wearing-surface of the sole in such manner as to make a rigid bend, or one that will remain rigid during the sewing operation, this bend starting at or under the channel and leaving an open angular groove around the entire length of the inner face of the sole, which groove is bounded on one side by the flap formed by opening the channel in bending the edge of the sole. Having the sole in this condition, and the upper and sole applied to the last and in relative position to be united, I employ in the machine, or in connection with the stitch-forming mechanism, a stationary guide and gauge-bar for a rest or support for the bent-sole edge and for a gauge and guide for the edge, said bar being made with an inclined face, against which the bent face of the sole, from the edge to the flap, rests, and with a narrow face or shoulder corresponding in width to the thickness of the sole-edge, and supporting said edge in position against the thrust of the awl and needle, the rest not only acting as a guide to the sole in its feed-movement, and as a support to resist the thrust of the needle, but also as a gauge to control or determine the distance from the edge or outer face of the sole at which the awl and needle-points shall enter the sole. It is this pecular guide and gauge-bar, in combination with the sewing mechanism, that constitutes my invention.

The drawing shows the gauge and guide-bar in connection with sufficient of the sewing-machine mechanism to show the relative disposition of the mechanism and the method of uniting the parts.

A shows the mechanism in side elevation. B is a top view of the bar by itself. *a* denotes the sewing-machine post; *b*, the needle-bar; *c*, the hook-needle, the needle-bar being under the shoe, and the needle rising to seize the thread; *d*, the awl-bar; and *e*, the awl, the awl-bar being above the work, and the awl descending to puncture the sole and upper preparatory to the rise of the needle, the needle passing through the hole so punctured. *f* denotes the outer sole, and *g* the upper. *h* is the channel formed in the sole; *i*, the angle formed at the edge; *k*, the edge, bent down; and *l*, the lip or flap, turned up by bending down the edge *k*. The sole, thus channeled, and with the temporary but comparatively rigid bend all around it, is confined upon the sole-face of a suitable last, *m*, with the upper in such position relative thereto as will bring the parts in proper position to be united. The shoe is now presented to the machine by resting the sole-edge face *n* upon the rest-face or lip *o* of the guide-bar *p*, the shank *q* of which bar is fastened to the sewing-machine frame. While the edge *n* thus rests upon the face or lip *o*, the flap *l* and the portion of the sole between the flap and the edge *n* will be bent over against the incline or face *r* of the gauge-bar by the pressure of the channel-foot *s*, which foot not only serves to thus press such portion of the sole against the face *r*, but also holds the square edge-face *n* upon the lip *o*. By such arrangement of the rest and guiding-faces they determine the point at which the

awl and needle shall enter the sole, insuring the passage of the awl-point through the angle of the channel and the uniformity in distance of the line of stitches from the edge-face *n*.

I claim—

In combination with the channel-foot *s* and the stitch-forming mechanism, the rest and guide, constructed as shown, and operating to support and guide the edge of the sole, which is bent over, and also to support the flap, as shown and described.

H. S. VROOMAN.

Witnesses:

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