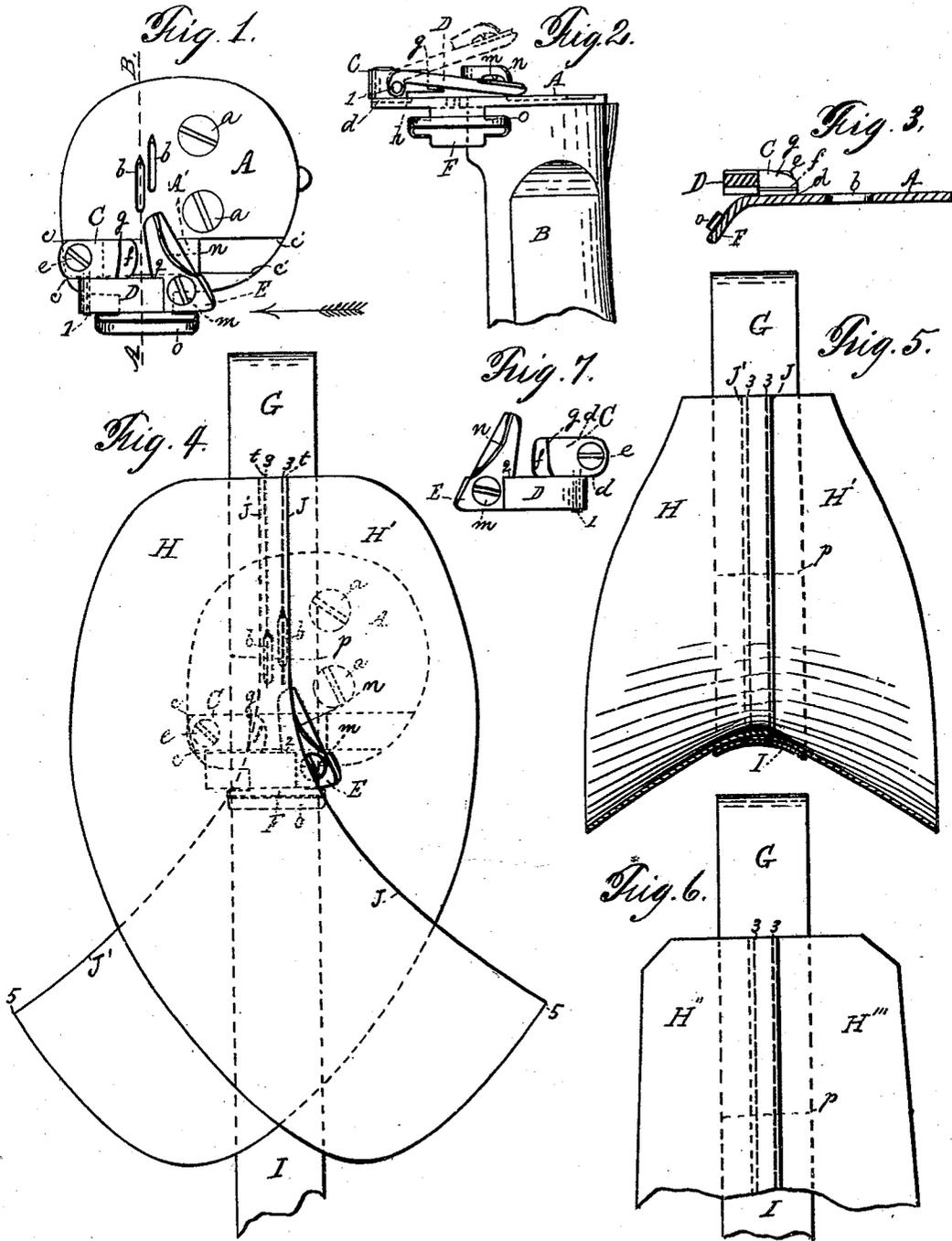


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GUIDES FOR WAX-THREAD SEWING-MACHINES.

No. 171,877.

Patented Jan. 4, 1876.



WITNESSES;  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN GUIDES FOR WAX-THREAD SEWING-MACHINES.

Specification forming part of Letters Patent No. 171,877, dated January 4, 1876; application filed November 5, 1875.

*To all whom it may concern:*

Be it known that I, WILLIAM A. SPRINGER, of Marlborough, in the county of Middlesex, Commonwealth of Massachusetts, have invented certain new and useful Improvements in Guides for Sewing-Machines, to be used in sewing loops or shoe-straps at the same time that a lap-seam is sewed, in manufacture of boots and shoes, as will be hereafter explained; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a top or plan view of my said improved guide. Fig. 2 represents a front view of the same as it appears when attached to a sewing-machine post for use, a part of the device being shown elevated in dotted lines to illustrate its construction more fully, as will be hereafter explained. Fig. 3 represents a vertical section through the device on line A B, Fig. 1, looking in the direction of the arrow in said figure. Fig. 4 represents a top or plan view of the device, together with two pieces of leather and webbing which form the strap, in the relative position which they occupy during the process of stitching them together by a lap-seam, when my guide is used to form the upper or front part of the vamp of a gaiter boot or shoe, as will be hereafter explained. Fig. 5 represents a front view of a section of the upper part of a vamp to a gaiter boot or shoe after the piece of leather and webbing have been stitched together by the use of my improved guide, as will be hereafter explained. Fig. 6 represents a back view of a section of the upper part of a gaiter boot or shoe leg after the pieces of leather and webbing to form the strap have also been stitched together to form a lap-seam by means of my improved guide, and Fig. 7 represents a top or plan view of a portion of my improved guide connected to be used in a reversed position from what the same parts are shown and described in Fig. 1, as will be hereafter explained.

To enable those skilled in the art to which my invention belongs to make and use the

same, I will proceed to describe it more in detail.

In the drawings, the part marked A is the sewing or work table or plate over which the work passes or is fed when it is stitched or sewed together. In this instance it is represented as being fastened by means of two screws, *a a*, to the top of post B, and it is provided with two slots, *b b*, for the passage of the needles and awls for sewing lap or double seams, with needles arranged diagonally with respect to the line of feed, substantially as shown and described in Letters Patent granted John M. Nichols, No. 168,521, dated October 5, 1875.

The front of plate A is provided with two dovetail grooves, *c c'*, for the reception of the lower dovetailed edge *d* of the block C, through which a set-screw, *e*, passes. From the inner end of block C, and a short distance above the part A' of plate A, projects a thin lip, *f*, thereby dividing the inner end of block C, so as to leave two shoulders, *g* and *h*.

By means of set-screw *e* block C can be adjusted back and forth in slot *c*, as occasion may require.

From the front edge of block C a pin or stud, *l*, projects, and upon which stud a guide-arm D is hinged, so that it can be raised and lowered. (See Fig. 2.) To the inner end of guide-arm D is secured by a screw, *m*, a guide-piece E, having a curved guide-pin, *n*, upon its upper side, the inner face of the guide-pin *n* being slightly beveled upward and outward, as indicated in full and heavy dark lines, Figs. 1 and 7. To form a strong and rigid connection between the inner end of arm D and guide E the inner end of the former is reduced, while the latter is made with a notch, *2*, whereby, when said parts are placed together, and screw *m* inserted, a rigid block joint is produced, as fully indicated in the drawings. From the front edge of the work table or plate A projects a downward inclined lip, F, and to said lip is secured the loop-guide *o*, through which the webbing passes, and by which it is retained in its proper relative position against its guide-shoulder, and which loop-guide *o* is so ar-

ranged that its center will be on a line, or nearly so, with a line passing between the two needle and awl slots *b b*.

When the parts are arranged, as shown in Figs. 1, 2, and 4, the guide is arranged for sewing a double and right-hand lap-seam, and at the same time sewing the strap *G* to the pieces of leather that are stitched together.

The operation is as follows: When the parts *H H'* of the leather are stitched together to form the front part of the upper end of a gaiter boot or shoe leg, and at the same time that the pull-strap *G* is secured or stitched to said parts *H H'* of the boot or shoe leg, the operator first takes hold of the webbing *I*, which may be drawn from a roll, and passes it through guide-loop *o*, and then draws it forward under lip *f*, so that the left-hand edge will bear against and be guided by shoulder *h*, and thence past the needle-slots *b b*, and then turns it back so as to form a pull-strap or loop, *G*, the end extending back so that when the stitching 3 3 commences at the points *t t* both ends of the loop or strap *G* will be stitched together and to the boot-leg parts *H H'*, as the stitching progresses down to the point *p*, or to a greater or less distance, as may be desired.

If a greater distance is desired a greater length of webbing will be required for the increased lap of the loop *G*, while if a less distance is required a less length of webbing will be required.

It will be observed that the inner lines *J J'* of the pieces *H H'* curve in opposite directions, and as it is necessary to bring edges *J J'* together, so that their edges, when lapped and stitched together by the double row of stitching 3 3, shall be parallel to each other, the inner edge *J'* of the piece *H'* is slipped under guide-piece *E* and arm *D*, and over lip *f*, so that it will bear against shoulder *g*, while the edge *J* of the piece *H* is passed over arm *D* and block *C*, so that its edge will bear against the shoulder guide lip or fin *n* on the guide-piece *E*, whereby, as the double rows of stitching 3 3 progress, the leather *H H'* and webbing *I* will be stitched together, as indicated in Figs. 4 and 5 of the drawings, the edges *J J'* being drawn into parallel lines as they pass the needle-slots *b b* in consequence of the action of guide-shoulders *g* and *n*, as before explained.

Ordinarily, a single thickness of webbing is allowed to be stitched to the leg down to the ends 5 5 of the parts *H H'*. This depends wholly, however, upon the preference of the manufacturer.

From the foregoing description it will be seen that by my improved guide the leg parts *H H'* and webbing-strap *G*, can be stitched together by a lap-seam and double row of stitching at one operation, and with the greatest accuracy and precision, and thus overcoming the many serious objections incident

to and consequent upon the old mode of stitching and uniting the parts together.

In case that it is desired to have the lap left-handed instead of right-handed, as shown in Fig. 4, a left-handed guide-piece (shown in Fig. 7,) is employed, and the dovetail part *d* of block *C* is slipped into the dovetailed groove *c'* in plate *A*.

The width of lap for seam may be varied by having different guide-parts, such as shown in Figs. 1 and 7, to slip into the respective grooves *c c'*, as occasion may require, and the lap may be also varied by having different guide-pieces *E*, with the shoulder or fin part *n* set at different distances from shoulder *g* and block *C*, or different guide-blocks *C* may be used to vary the distance between shoulder *g* and guide-fin *n*; still, again, guide-arms *D* of varying lengths may be used, or the arm may be made in two pieces, and lapped and held together by a suitable fastening, so that its length can be quickly and easily adjusted for sewing lap-seams of different widths.

In Fig. 6 a section of the upper parts *H'' H'''* of the back of a gaiter boot or shoe leg is shown stitched together by two rows of stitching, 3 3, to form a lap-seam at the same time that the webbing *I* is stitched to the parts to form the draw strap or loop *G*; and my improved guide is also particularly adapted for facilitating the manufacture of this part of the boot or shoe.

Those skilled in the art to which my invention belongs will observe that the construction of my improved guide is such that it will work with equal facility when the material varies in thickness, since when the part which runs under the guide-arms *D*, and against shoulder *g*, varies in thickness, arm *D*, being hinged, rises and falls to conform thereto.

The block *C* may be made so that by changing it end for end the guide may be used for sewing any kind of lap-seam, the reverse end being made smooth, and without the projection or lip *f*.

The same object may be accomplished by making the lower part of the block *C* detachable, so that the lip part can be removed and another substituted without a lip.

Having described my improved guide for sewing lap-seams, in the manufacture of legs for boots and shoes, and stitching webbing draw straps or loops thereto at the same time, what I claim therein as new, and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with the work or needle-plate of a sewing-machine, of two leather lap guides or shoulders, and a webbing guide or shoulder, whereby a boot or shoe leg lap-seam can be stitched, and the webbing loop or strap secured thereto at the same time, substantially as described.

2. The combination, with the work table or

plate A, of a lap-seam guide device, consisting of the parts C, D, and E, substantially as and for the purposes set forth.

3. The combination, with the hinged guide-arm D and guide-piece E, of block C, having lip *f*, and shoulders *g* and *h*, substantially as and for the purposes set forth.

4. The combination, with the work or needle-plate of a sewing-machine, of two leather

lap guides or shoulders, *g* and *n*, and a webbing guide or shoulder, *h*, and webbing loop-guide *o*, substantially as and for the purposes set forth.

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Witnesses:

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