

E. LAPOINTE.
 SHOE MACHINE GUIDE.
 APPLICATION FILED APR. 23, 1908.

928,988.

Patented July 27, 1909.

2 SHEETS—SHEET 1.

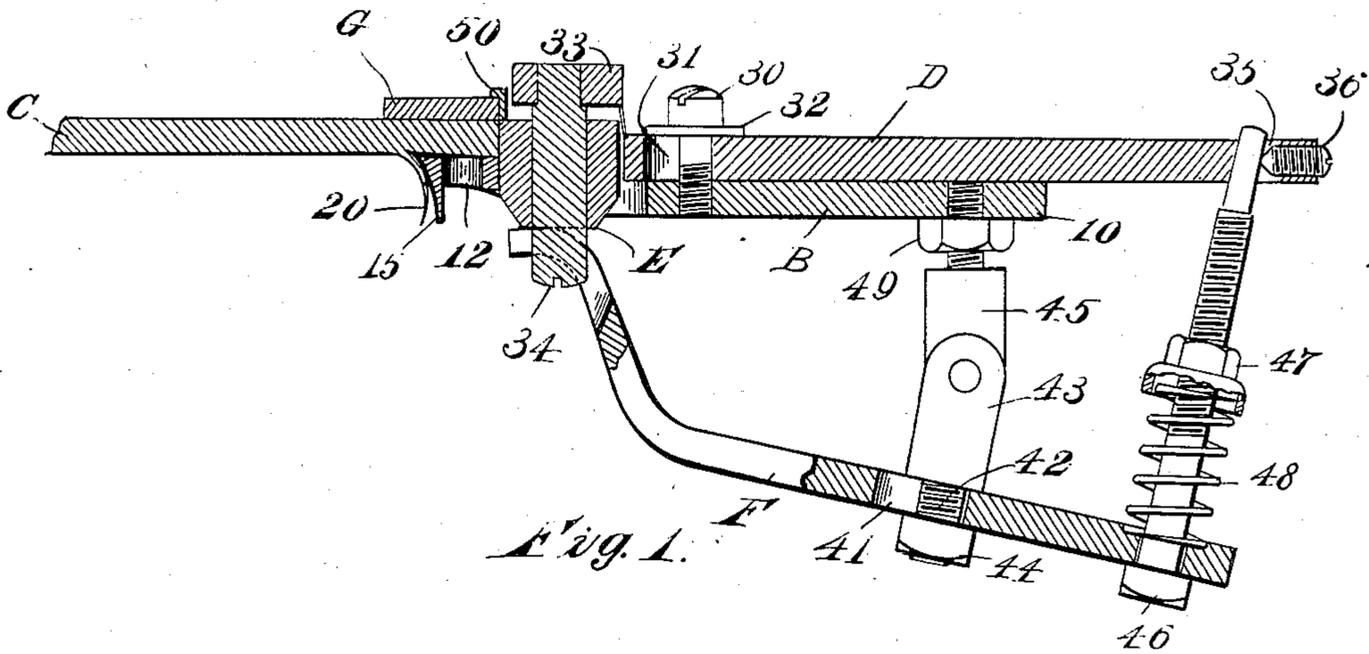


Fig. 1.

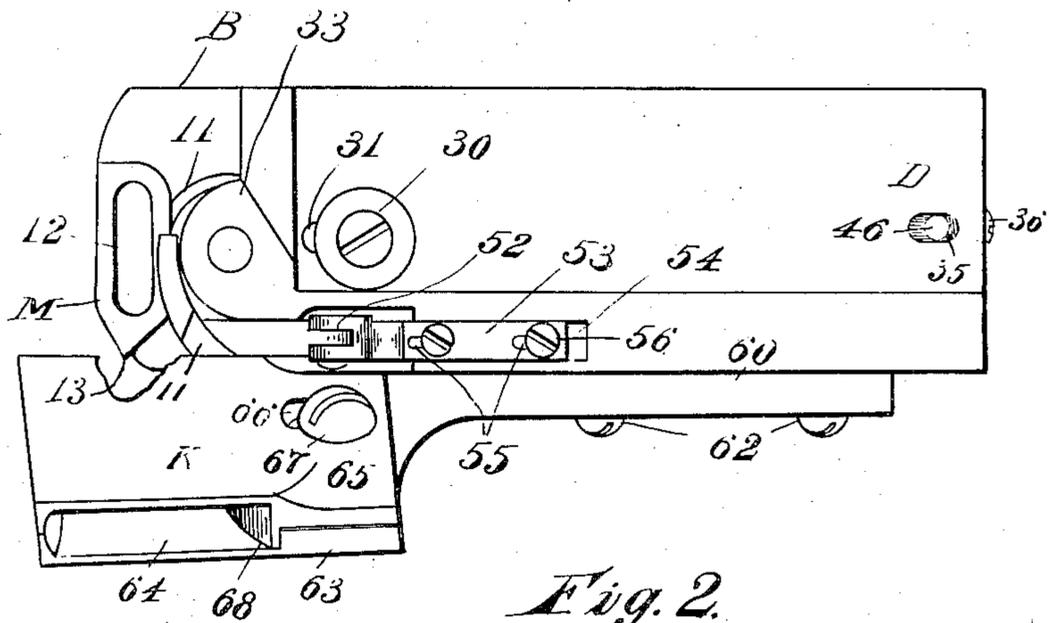


Fig. 2.

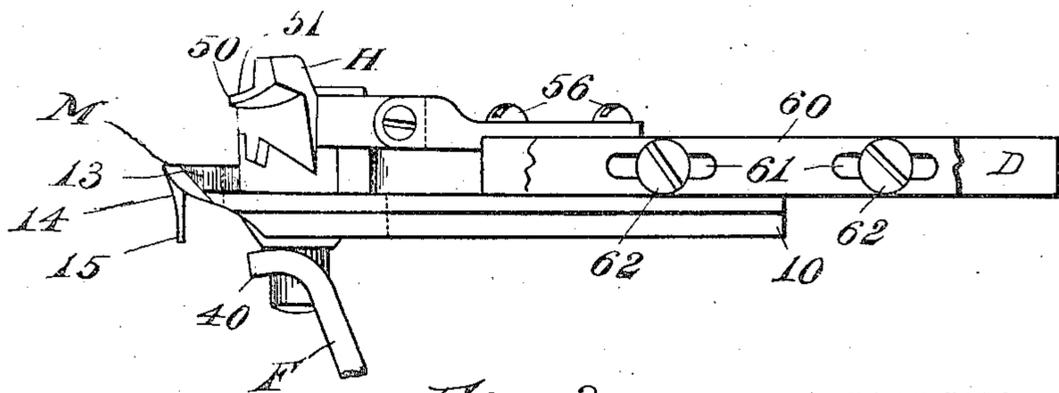


Fig. 3.

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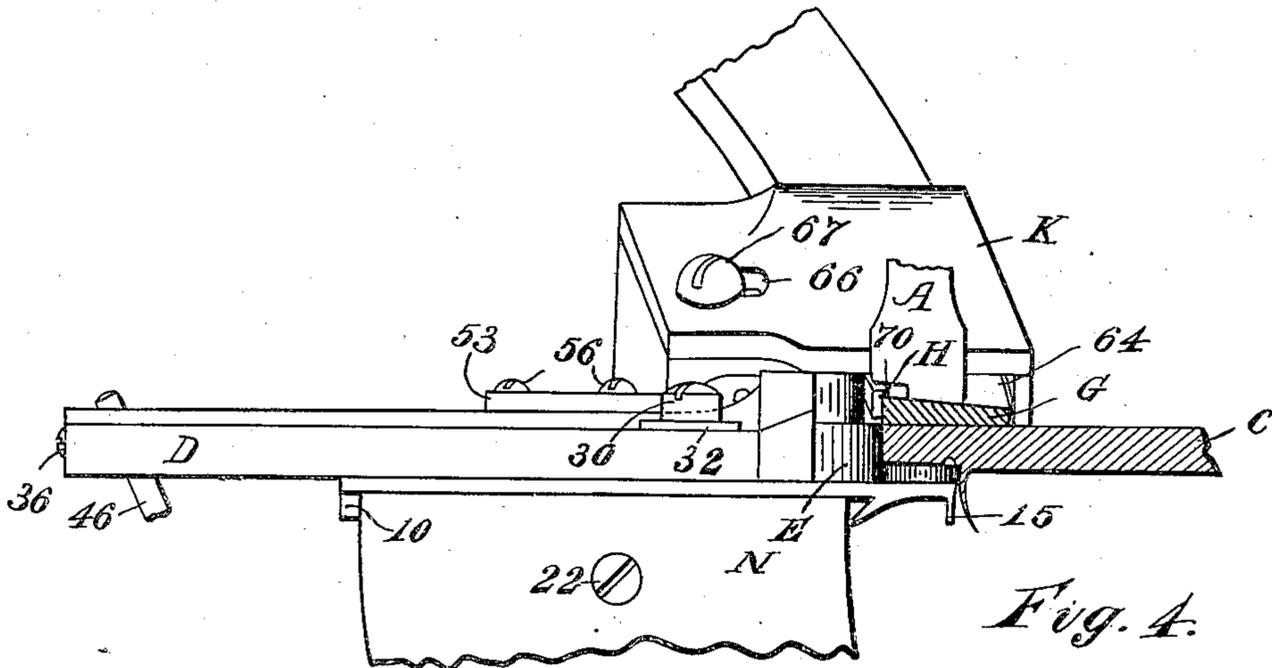


Fig. 4.

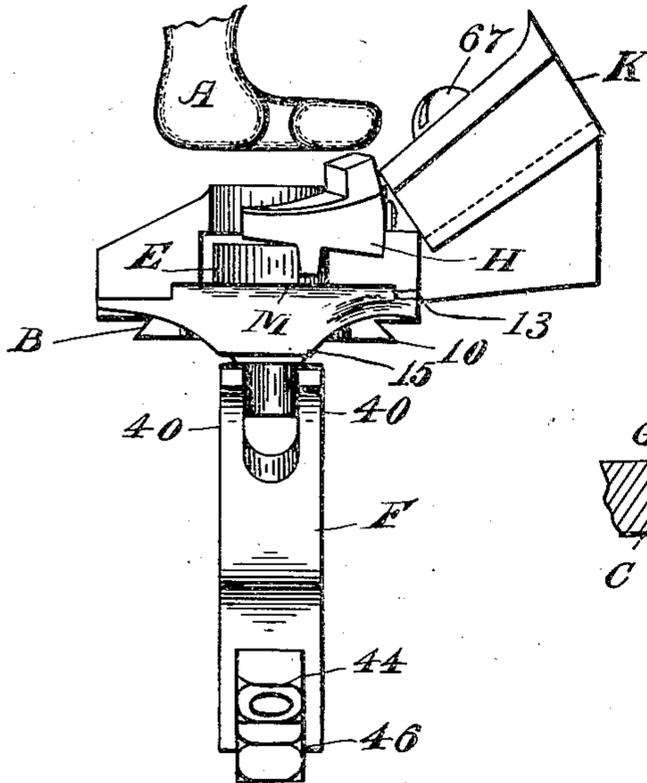


Fig. 5.

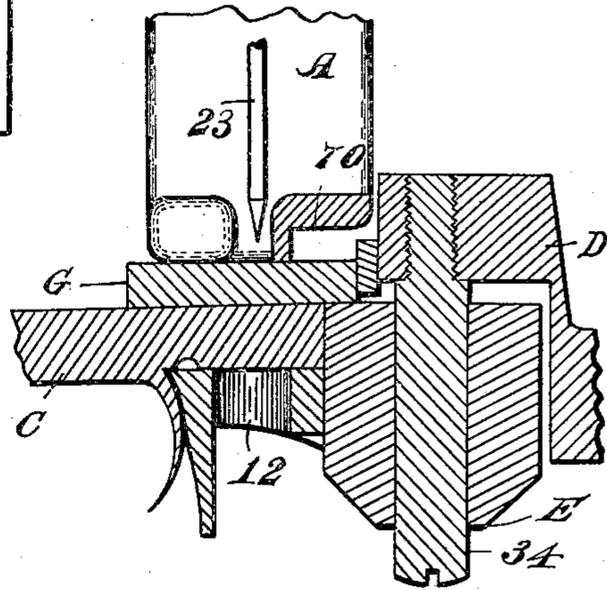


Fig. 6.

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UNITED STATES PATENT OFFICE.

EDGARD LAPOINTE, OF LAWRENCE, MASSACHUSETTS.

SHOE-MACHINE GUIDE.

No. 928,988.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed April 23, 1908. Serial No. 428,802.

To all whom it may concern:

Be it known that I, EDGARD LAPOINTE, a citizen of Canada, residing at Lawrence, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Shoe-Machine Guides, of which the following is a specification.

This invention relates to machines for manufacturing shoes and particularly to what are known as fair stitch sewing machines for sewing the welt to the sole.

At present the welt, which consists of a narrow strip of leather either of uniform thickness or beveled as shown, is, by one operation upon another machine, tacked by wire brads, or otherwise temporarily fastened on top of and along the edge of the sole. After being so tacked, it is passed along guides and between the awl and needle of the fair stitch machine which firmly sews the welt to the sole.

The particular object of my device is to obviate the necessity of the first operation. By dispensing with the tacking operation, the expense thereof is avoided, and moreover, as I thus do away with the wire brads, the later operations in which the welt is cut or shaved down at the toe and ends are much more readily performed. The brads as used in the old machines interfere with and turn the edges of the knives used for cutting or shaving the leather.

My device consists of certain guides and attachments whereby the sole and welt are fed separately to the fair stitch machine so as to come together at a point directly between the needle and awl or a little in advance thereof. As the welt and sole, held in position by the guides, pass the needle, they are sewed together.

Usually in such machines, a channel is cut horizontally along the outside of the bottom of the sole to a depth beyond where the stitching is to be. The flap formed at the bottom by this channel is held back during the sewing. After the sewing and after the shoe is substantially finished, the flap is pressed back into place and there glued so that the stitches are entirely concealed.

In the drawings, Figure 1 is a cross section from the front through the sole edge guide and welt edge guide. Fig. 2 is a top view. Fig. 3 is a view from the front with most of the welt directing guide removed for greater clearness. Fig. 4 is a detail view from the back. Fig. 5 is a view as

from the left of Figs. 1 and 2. Fig. 6 is an enlarged section similar to Fig. 1 but with a different adjustment of parts.

In these machines, there is what is known as a foot step or presser foot shown at A in Figs. 4, 5, and 6 which, through proper mechanism, is pressed firmly down upon the welt and sole while the awl and needle are being driven therethrough. The presser foot thus compresses the leather and holds the stock in place during the driving and is lifted automatically to complete the stitch and to allow the stock to be fed along. The presser foot is again depressed to allow the next stitch to begin and so on.

To allow of the ready insertion of the stock under the presser foot in the first place and to permit its ready removal at the finish, the presser foot is connected to a treadle operated by the foot of the operator. By pressing this treadle, the presser foot is raised out of the way.

My device is supported by a work plate B, along the bottom of which is a dove tailed projection 10 so shaped as to slip into corresponding grooves in the jaws of the work supporting post N. It is held in the jaws of this post by the usual screw or bolt 22 by which the jaws are brought together. This plate B has an opening 11 through which the sole edge guide E passes. It projects upward at one end to form the sole support and channel guide M. A slot 12 through which the needle and awl 23 of the sewing machine operate, extends through channel guide M. At the front, see Fig. 3, of channel guide M, the metal is brought to a point 13 and is beveled at 14 to present a slanting, guiding surface which is extended into the dependent fin 15 of channel guide M.

The sole C rests upon channel guide M over slot 12, and before the sewing is started, the point 13 of the channel guide M is inserted in the channel of the sole C. As the sole is pushed along during the sewing, channel flap 20 is forced down and back by the channel guide M and its fin 15, so as to be held out of the way of the needle.

The main plate D rests on top of work plate B and is adjustably attached thereto by means of a screw 30 which passes through slot 31 into work plate B. Preferably, a washer 32 encircles screw 30 and rests upon plate D. By loosening screw 30, main plate D may be moved backward or forward the length of slot 31 and may be fastened at any

point desired by tightening screw 30. As sole edge guide E moves with main plate D, the distance of the sewing from the edge of the sole may be thus regulated, as the needle does not move therewith.

At the left, main plate D is formed with a bossed projection forming the sole edge guide support 33, which is suitably cut away at the bottom to receive sole edge guide E. The pin 34 is screwed upward into sole edge guide support 33 and the sole edge guide E, which is substantially a solid roller which is preferably beveled off at the bottom to avoid the cut off, is loosely mounted thereon. Sole edge guide E can thus move up or down on sole edge guide pin 34.

To maintain sole edge guide E normally in the raised position, I provide the riser arm F, which is forked at 40 to pass around pin 34 and to rest under sole edge guide E. Riser arm F has a slot 41 through which passes the threaded shank 42 of pivot arm 43. By means of nut 44 and slot 41, the pivotal point of riser arm F may be adjusted in a well known manner. Pivot arm 43 is supported pivotally by a standard 45 screwed into the bottom of base plate B. I prefer to have a check nut 49 on the shank of standard 45.

To keep sole edge guide E normally raised, I pass through a suitable passage in the outer end of riser arm F, a headed bolt 46. This bolt 46 also passes through an opening 35 in main plate D and is adjustably held in place by a set screw 36. Nuts 47 on bolt 46 serve as adjustable bearings for a spiral spring 48 around bolt 46 interposed between them and the end of riser arm F. It will be seen that if sole edge guide E is pressed downward by the presser foot or otherwise, it will rock riser arm F and compress spring 48. When the pressure is removed, spring 48 will return the parts to their normal positions. By means of set screw 36, the extreme high point of sole edge guide E may be adjusted for different thicknesses of soles. This is desirable, as no special harm is done if the thickness of the sole projects a little above the top of the sole edge guide but the machine does not operate as well if the sole edge guide projects above the edge of the sole. As the leather is somewhat compressed by the presser foot, the sole edge guide E may be slightly depressed but it is kept up in operative position by the spring of riser arm F.

To hold the welt G in place upon sole C, I provide a welt edge guide H. This welt edge guide is so curved as to guide the welt from the outlet of welt directing guide K past the awl and the needle. It also preferably has a curved guiding lip 50 which serves to guide the edge of the welt downward upon the sole after it leaves guide K. However this lip may be dispensed with as shown

in Fig. 6, as the presser foot holds the welt down and in place. The top of this welt edge guide H is cut away at 51 to clear the presser foot A. Welt edge guide H rests on top of sole edge guide E. Presser foot A is cut away at 70 to clear the top of welt edge guide H and sole edge guide E but it may, in compressing the leather of the welt and sole during the sewing, depress both guides H and E more or less. Riser arm F immediately brings them back when the pressure is removed. If the welt overlaps the sole and rests on top of sole edge guide E, the pressure of presser foot A will be transmitted by the leather to guide E and will depress it.

Welt edge guide H is pivoted at 52 to an arm 53 which rests in a groove 54 in main plate D. Welt edge guide arm 53 is provided with slots 55 through which screws 56 pass into main plate D by which it can be adjusted back and forth. The lateral adjustment of this guide determines the distance of the sewing from the edge of the welt.

The welt directing guide K is carried by a leg 60 provided with slots 61 through which pass screws 62 into main plate D. It can thus be adjusted back and forth. The bottom guide plate 63 of guide K is channeled at 64 to receive the welt and the top plate 65 is slotted at 66 and adjustably fastened to the bottom plate by a screw 67. Top plate 65 is also channeled to receive the welt and has a shoulder 68 which rests inside of channel 64. The welt G is passed through channel 64 and is made to closely fit therein by the adjustment of shoulder 68. Its point of delivery to welt edge guide H is determined by adjusting screws 62.

The distance of the sewing from the edge of the sole is determined by adjusting screw 30 and the distance of the sewing from the edge of the welt and the welt's relation to the sole are determined by adjusting screws 56. The adjustments of riser arm F are made to correspond, if necessary, by nuts 44 and set screw 36. The vertical adjustment for the thickness of the sole and welt is made by bolt 46 and set screw 36 and automatically by the presser foot A and riser arm F reciprocally acting upon welt edge guide H and sole edge guide E.

The advantages which I claim for my construction are that the various guides can be accurately adjusted for different width and thickness of soles and welts and can be adjusted for different relations of the parts. The location of the sewing can also be adjusted and the welt guides can be so adjusted that the welt will overlap the sole, as shown in Fig. 6, or vice versa. After the guides are adjusted before beginning the sewing, the operation of the presser foot and riser arm and the relation of the parts make

the vertical adjustment for the thickness of the sole and welt automatically and instantaneously. In this way the stock can be freely put in place and positively held and guided during the operation of sewing.

In operating my device, the edge of the sole at the point where the sewing is to begin, is rested upon channel guide M and against sole edge guide E. The welt is now pushed through welt directing guide K and pressed sidewise by the thumb of the operator against welt edge guide H. When welt and sole are in their place, the presser foot A is released by the operator and welt and sole are firmly held in place thereby as they are sewed in the usual manner.

The welt may be thicker than the welt edge guide as shown in Fig. 4, or it may be thinner, as shown in Fig. 6, but preferably it is of the same thickness. The welt may be beveled or it may be of even thickness.

By unscrewing screws 62, 62, welt directing guide K may be entirely removed, and the guides E and H will be still useful for some classes of work. By raising guide E to its highest point by means of riser arm F, guide H will be lifted out of the way and will be idle, thereby allowing sole edge guide E to be used as in the old style machines as an edge guide for the sole with the welt tacked thereto. Its elastic action caused by riser arm F will allow it to adjust itself to any thickness of stock within limits.

What I claim as my invention and desire to cover by Letters Patent is:—

1. In a shoe sewing machine, a vertically adjustable sole edge guide and a laterally adjustable welt edge guide cooperating therewith, combined with a welt directing guide, and elastic means for keeping the sole edge guide and the welt edge guide normally raised.

2. In a shoe sewing machine, a work plate, a sole edge guide which is vertically movable and laterally adjustable with reference thereto and elastic means for keeping said guide normally raised to a preadjusted point, combined with a presser foot which cooperates therewith.

3. In a shoe sewing machine, a vertically movable sole edge guide, and a cooperating vertically movable welt edge guide, which is laterally adjustable with reference to the sole edge guide, combined with elastic means for keeping said guides normally raised.

4. In a shoe sewing machine, a vertically movable sole edge guide, and a cooperating vertically movable welt edge guide, combined with elastic means for keeping said guides normally raised and a presser foot cut away at the bottom so as to clear said guides.

5. In a shoe sewing machine, a work plate, a vertically movable sole edge guide which is laterally adjustable with reference thereto

and a cooperating vertically movable independently laterally adjustable welt edge guide which rests thereon, combined with elastic means for keeping said guides normally raised.

6. In a shoe sewing machine, a vertically movable, laterally adjustable sole edge guide, and a cooperating vertically movable, independently laterally adjustable welt edge guide which rests thereon, combined with elastic means for keeping said guides normally raised, and a presser foot cut away at the bottom so as to clear said guides.

7. In a shoe sewing machine, a vertically movable, laterally adjustable sole edge guide, and a cooperating vertically movable, laterally adjustable welt edge guide which rests thereon, combined with elastic means for keeping said guides normally raised, and an adjustable welt directing guide as described.

8. A guide for shoe sewing machines comprising a work plate, an adjustable main plate, a sole edge guide carried thereby, and a welt edge guide pivotally and adjustably carried by the main plate, combined with an adjustable welt directing guide carried by the main plate, and a spring actuated riser arm which bears upward on the sole edge guide.

9. In a shoe sewing machine, a work plate provided with a needle slot and a channel guide, a main plate adjustably attached thereto and provided with a sole edge guide support, a pin depending from said support, a roller loosely carried thereby forming a sole edge guide, a curved welt edge guide pivotally and adjustably attached to the main plate and provided with an upper over-hanging lip and normally resting upon the sole edge guide, combined with a welt directing guide adjustably attached to the main plate and provided with an adjustable opening, and a riser arm forked at one end to straddle said pin and bear against the sole edge guide and adjustably pivoted to a standard which depends from the work plate, and a spring between the main plate and the free end of said riser arm.

10. In a shoe sewing machine, a work plate provided with a needle slot, a main plate mounted thereon, a pin depending therefrom, and a roller loosely mounted on said pin, combined with a riser arm which is forked to encircle said pin and to rest under said roller, a pivot for said arm attached to the main plate, a bolt passing through the free end of said arm and through an opening in the main plate, a set screw in the main plate which bears on said arm, nuts on said bolt, and a spiral spring around said bolt between the nuts and the riser arm.

11. In a shoe sewing machine, a work plate, a vertically movable, laterally adjustable sole edge guide, and a cooperating vertically

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movable welt edge guide which is laterally adjustable with reference to the sole edge guide and rests thereon, combined with elastic means for keeping said guides normally raised to a preadjusted point.

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12. In a shoe sewing machine, a vertically movable, laterally adjustable sole edge guide, and a cooperating vertically movable, laterally adjustable welt edge guide which rests
10 thereon, combined with elastic means for

keeping said guides normally raised to a preadjusted point, means for so adjusting the elastic means, and a presser foot cut away at the bottom so as to clear said guides.

In testimony whereof I affix my signature 15
in presence of two witnesses.

EDGARD LAPOINTE.

Witnesses:

JOSEPH MONETTE,
LEON BAZIN.