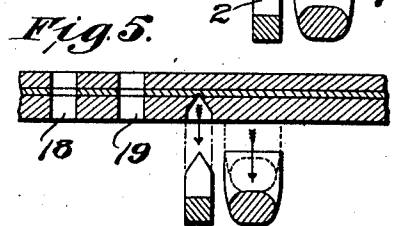
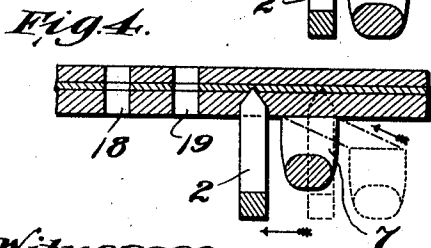
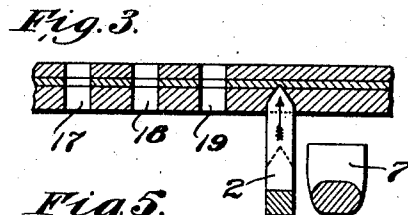
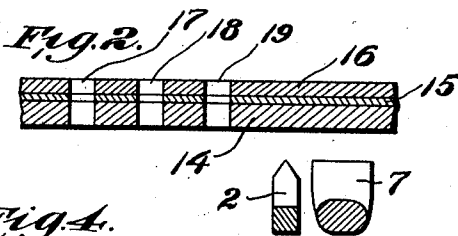
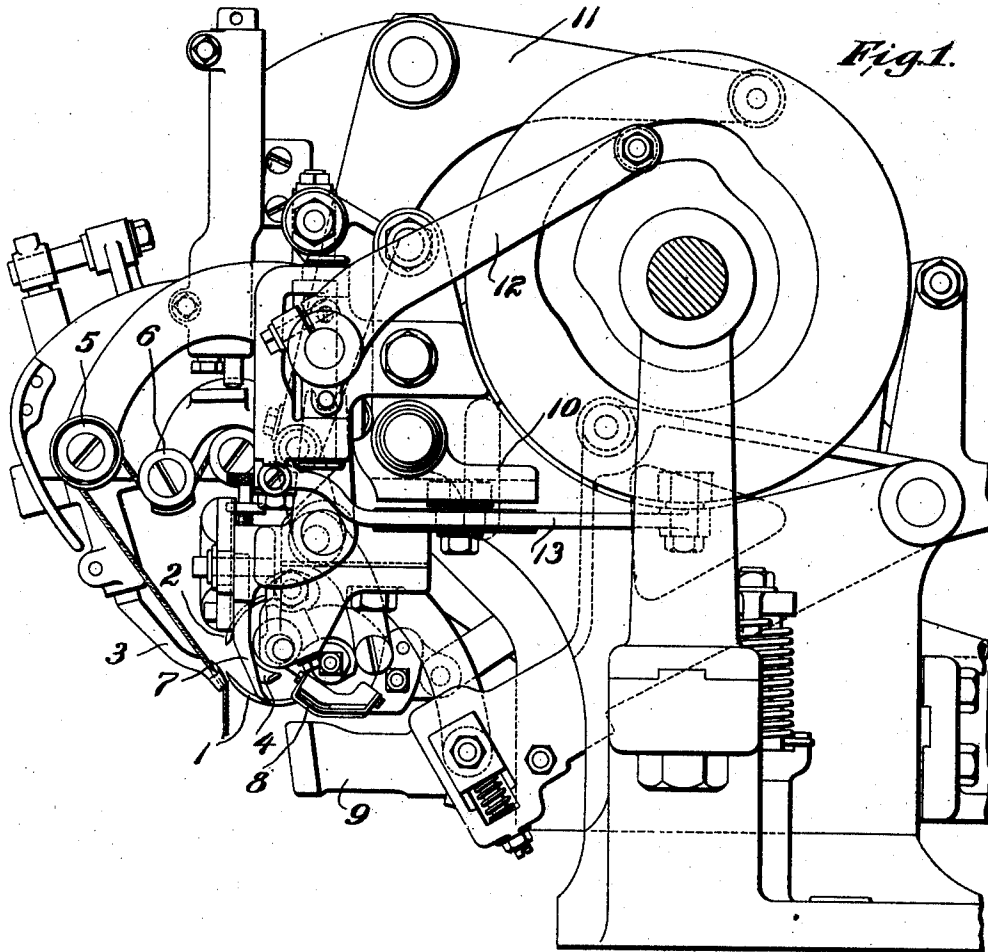


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CHANNEL GUIDE MECHANISM FOR SHOE SEWING MACHINES.
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1,002,619.

Patented Sept. 5, 1911.



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UNITED STATES PATENT OFFICE.

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CHANNEL-GUIDE MECHANISM FOR SHOE-SEWING MACHINES.

1,002,619.

Specification of Letters Patent.

Patented Sept. 5, 1911.

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To all whom it may concern:

Be it known that I, ERASTUS E. WINKLEY, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Channel-Guide Mechanism for Shoe-Sewing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to inseam shoe sewing machines and particularly to an improved channel guide mechanism for such machines.

Inseam shoe sewing machines are usually provided with a channel guide to engage the channel of the shoe being operated upon and also with a feed point or awl also arranged to engage the channel. The channel guide is usually mounted upon the feed slide which carries the awl so that it has a lateral movement in the line of feed with the awl. Both the channel guide and the awl are moved toward and from the work and the mechanism for actuating the channel guide and awl is so arranged that the channel guide moves toward the work with the awl and engages the work before the work is fed. The channel guide is usually located upon the opposite side of the feed point from the needle and when in contact with the work at the beginning of the feeding movement takes up a considerable amount of room which interferes with the proper manipulation of the shoe, particularly when sewing around the toe of narrow-toed shoes.

The object of the present invention is to overcome the difficulty heretofore experienced in sewing around the toes of narrow-toed shoes by reason of the engagement of the channel by the channel guide and with this object in view the invention contemplates the provision in an inseam shoe sewing machine of a channel guide and means for moving the guide toward and from the work arranged to move the guide

into contact with the work after the work has been fed.

In the drawing accompanying this application, the present invention is illustrated in an inseam shoe sewing machine provided with a feed point or awl and a channel guide both of which are mounted upon a reciprocating feed slide. In embodying the invention in this machine, means have been provided for moving the channel guide toward the work during the feeding movement of the feed slide so that the channel guide approaches the work along a path inclined to the direction of feed and engages the work after it has been engaged by the awl, and at the end of the feeding movement. It is believed to be new in an inseam shoe sewing machine provided with a feed point and a channel guide to move the channel guide into engagement with the work after the work has been engaged by the feed point and a construction by which such a result can be secured is considered to constitute a feature of the present invention.

A feature of the present invention is also considered to consist in the provision in an inseam shoe sewing machine of means for so actuating the channel guide that it approaches the work in a direction inclined to the direction of feed.

In addition to the features of invention above referred to the present invention also consists in the devices and combinations of parts hereinafter described and claimed the advantages of which will be obvious to those skilled in the art from the following description.

Referring to the drawing, Figure 1 is a view in side elevation of an inseam shoe sewing machine embodying the preferred form of the present invention and Figs. 2, 3, 4 and 5 are diagrammatical views illustrating the relative positions of the feed point and channel guide at different points in the operation of the machine.

The machine illustrated in Fig. 1, except as hereinafter described, is the same in the construction, arrangement and mode of op-

eration of its various parts as the in-seam shoe sewing machine disclosed in the pending application of Andrew Eppler, Serial No. 447,542, filed August 8, 1908, and therefore will not be described in detail herein.

The principal parts of the machine illustrated in Fig. 1 are the curved hook needle 1, the feed point or awl 2, the looper 3, the thread arm 4, the take-up 5, the auxiliary take-up 6, the channel guide 7, the welt guide 8, the back rest 9, and the feed slide 10. Both the awl and the channel guide are mounted upon the feed slide 10, the awl being actuated through suitable connections 15 from the cam actuated bell crank 11 and the channel guide being actuated through suitable connections from the cam actuated arm 12. The feed slide 10 is reciprocated by a cam actuated lever 13, and the cams for actuating the lever 13, arm 12, and bell crank 11 are so arranged that during each cycle of operations of the machine the awl and channel guide are moved toward and from the work and are also moved back and forth in the direction of feed.

In embodying the present invention in the machine illustrated in Fig. 1 the mechanism for moving the channel guide toward and from the work has been so arranged that the channel guide is moved toward the work during the feeding movement of the awl and is caused to engage the work substantially at the end of the feeding movement.

The relative movements of the awl and channel guide will be clearly understood from an inspection of Figs. 2, 3, 4 and 5, in which 14 indicates the between substance of the insole of a lasted shoe, 15 the upper and 16 the welt. 17, 18 and 19 indicate holes successively made in the work by the action of the awl and needle. The seam of chain stitches which are formed during the operation of the machine has been omitted from these figures for the sake of clearness. Fig. 2 illustrates the position of the feed point or awl 2 and channel guide 7 at the end of the back or idle movement of the feed slide. While the feed slide remains at rest the awl is moved toward the work and its point pierces the between substance of the insole as indicated in Fig. 3. The channel guide, however, remains in the position indicated in Fig. 2. The feed slide is now actuated to cause the feed point to feed the work and during this movement of the slide the channel guide is moved toward the work so that it is brought into engagement with the between substance at the end of the feeding movement as indicated in Fig. 4, the lip of the channel guide moving in a path inclined to the direction of feed. The awl and channel guide are then retracted as indicated in Fig. 5 and are returned by the backward

movement of the feed slide to the position indicated in Fig. 2. While the awl and channel guide are in the position indicated in Fig. 4, the needle advances toward the work and as it passes through the work, the awl is retracted. The channel guide, however, remains in engagement with the between substance during the passage of the needle through the work and supports the work against the thrust of the needle. The channel guide acts effectively to support and guide the work during the sewing operation and at the same time by reason of the manner in which it is actuated, does not interfere with the proper manipulation of the shoe in sewing around sharp curves.

The nature and scope of the present invention having been indicated and the preferred embodiment of the invention having been specifically described, what is claimed is:—

1. An in-seam shoe sewing machine, having, in combination, stitch forming devices, means for intermittently feeding the work, a channel guide, and means for moving the channel guide toward and from the work arranged to move the guide into contact with the work at the end of the feeding movement.

2. An in-seam shoe sewing machine, having, in combination, stitch forming devices, a feed slide, means for actuating the slide, a feed point and a channel guide mounted on the feed slide, means for moving the feed point toward and from the work, and means for moving the channel guide toward and from the work arranged to move the guide toward the work during the feeding movement of the slide.

3. An in-seam shoe sewing machine, having, in combination, stitch forming devices, means for feeding the work, a channel guide mounted to move laterally in the direction of feed, and means for moving the guide toward the work during its lateral movement whereby the guide approaches the work along a path inclined to the direction of feed.

4. An in-seam shoe sewing machine, having, in combination, stitch forming devices including a needle, means for feeding the work, a channel guide, and means for moving the channel guide toward and from the work arranged to move the guide toward the work along a path approaching the needle and inclined to the direction of feed.

5. An in-seam shoe sewing machine, having, in combination, stitch forming devices, a feed point, a channel guide, means for moving the feed point toward and from the work and laterally to feed the work and means for moving the channel guide toward and from the work, arranged to move the

guide into contact with the work at the end of the feeding movement of the feed point.

6. An inseam shoe sewing machine, having, in combination, stitch forming devices
5 including a needle, a feed point, a channel guide on the opposite side of the feed point from the needle, means for moving the feed point toward and from the work and laterally to feed the work and means for mov-

ing the channel guide toward and from the 10 work arranged to move the guide into contact with the work after the work has been engaged by the awl.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
