(No Model.) 3 Sheets—Sheet 1.

F. W. MERRICK.

WORK GUIDING DEVICE FOR SEWING MACHINES.

No. 551,129. Patented Dec. 10, 1895.

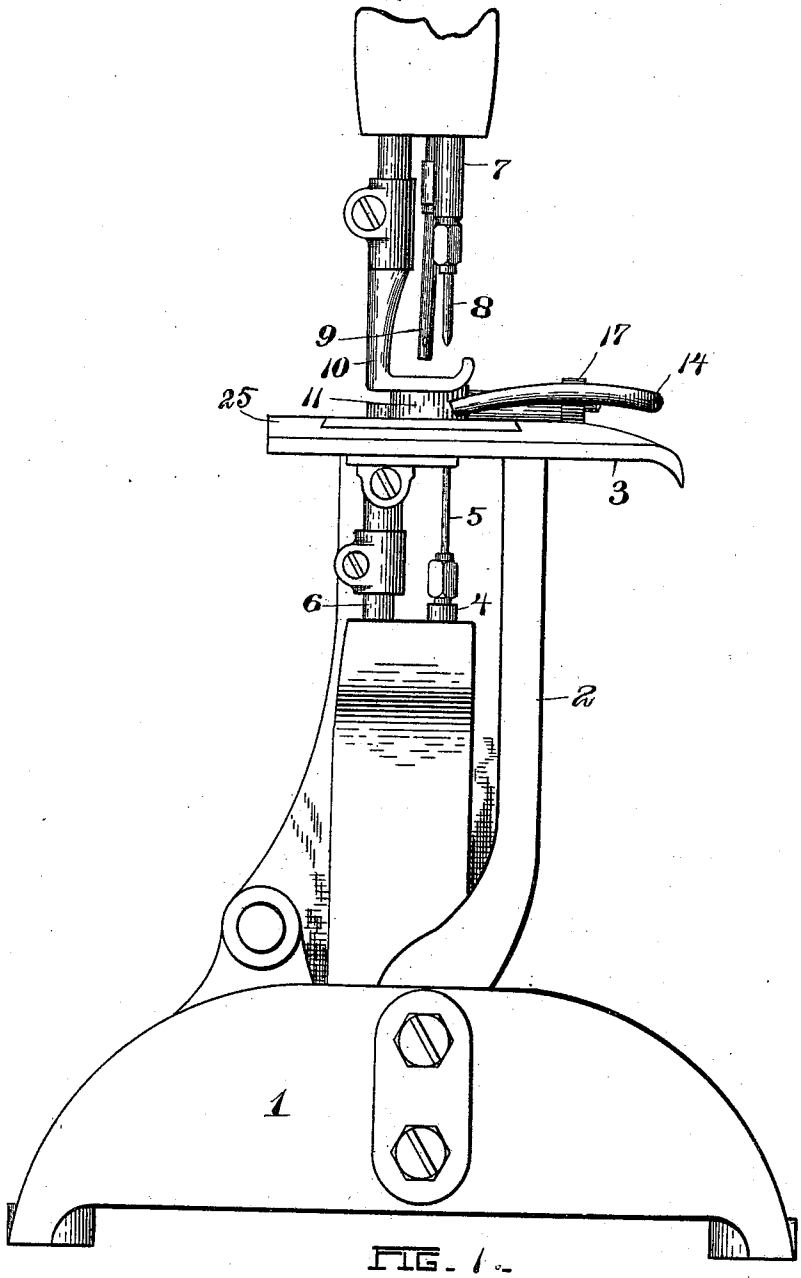

FIG. 1.

Witnesses
Harry M. Keyes.
Arthur J. Randall.

Inventor
Frank W. Merrick
by Macleod Calvert & Randall
his Attorneys

(No Model.) 3 Sheets—Sheet 2.

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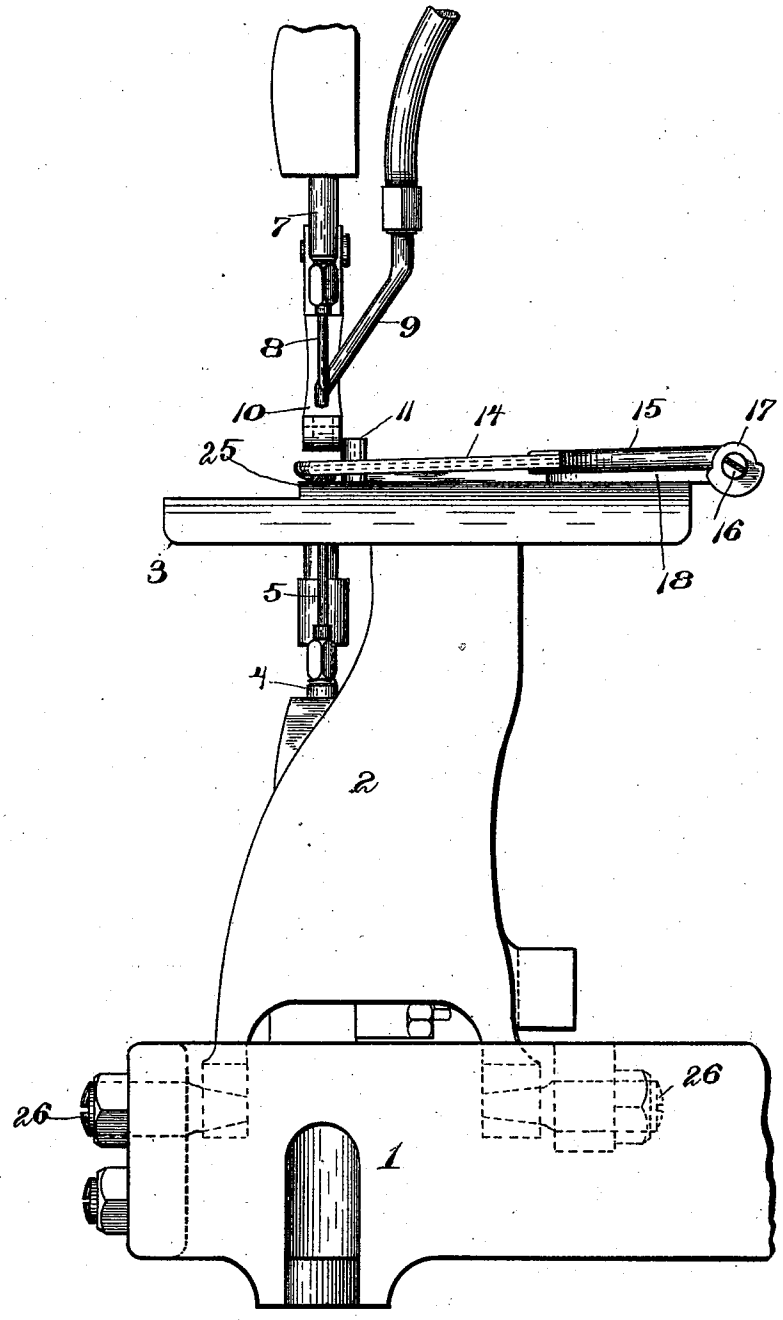

FIG. 2.

Witnesses.
Harry M. Keys.
Arthur J. Randall.

Inventor.
Frank W. Merrick
by Macleod Calver & Randall
his Attorneys

(No Model.) 3 Sheets—Sheet 3.

F. W. MERRICK.

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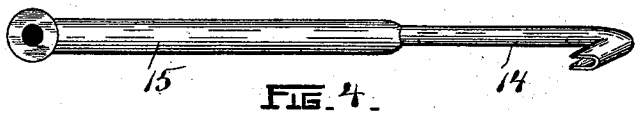

FIG. 4.

FIG. 5.

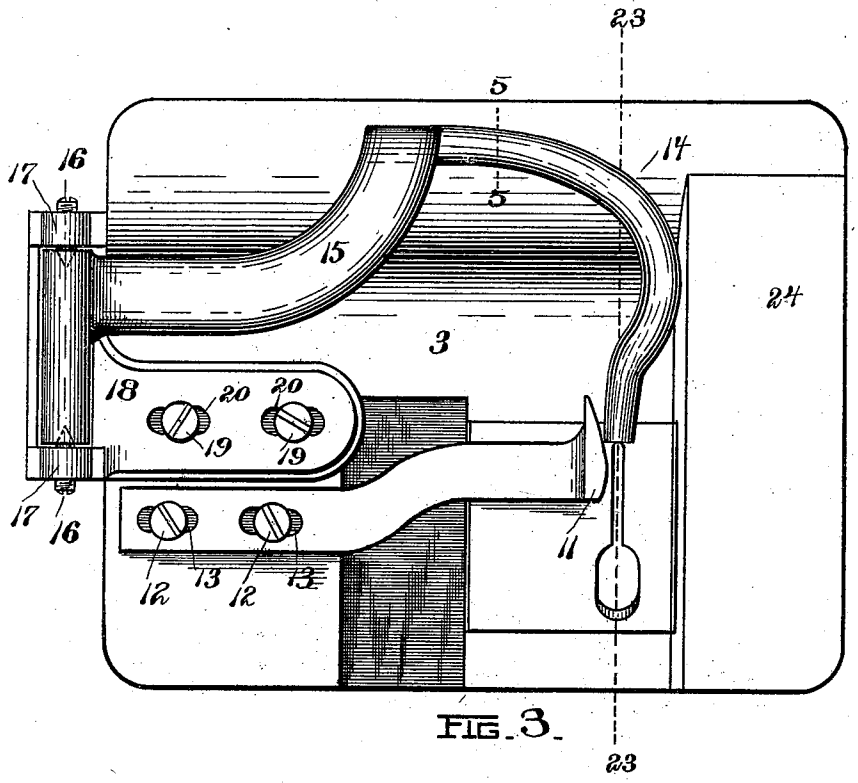

FIG. 3.

Witnesses.
Harry M. Keyes.
Arthur J. Randall.

Inventor.
Frank W. Merrick
by Macleod Calver & Randall
his Attorneys

UNITED STATES PATENT OFFICE.

FRANK W. MERRICK, OF BOSTON, MASSACHUSETTS.

WORK-GUIDING DEVICE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 551,129, dated December 10, 1895.

Application filed March 9, 1894. Serial No. 503,008. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. MERRICK, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates chiefly to the devices which are employed in sewing-machines to facilitate the making of seams containing welts.

One object of the invention is to provide a welt-guide which shall be so constructed as to afford the operator full view of the edges of the two pieces of material which are to be united before they reach the stitching devices, and enable him, as the work advances, to ascertain whether or not such edges are placed properly with relation to each other, with seams matched, &c., in order that in case they are not thus placed he may adjust them as may be necessary.

Another object is to enable the welt to be directed properly against the face of the seam-guide, which is located at the side of the stitching mechanism.

Other objects thereof will appear from the following description.

The invention consists in certain novel features of construction and combinations of parts, all as first will be described fully with reference to the accompanying drawings, and as afterward will be pointed out more particularly and distinctly defined in the claims at the close of this specification.

In the drawings, Figure 1 is a view in end elevation of part of a sewing-machine having my invention applied thereto. Fig. 2 is a view in side elevation of the parts which are shown in Fig. 1. Fig. 3 is a view in plan of the work-rest and the parts which are applied thereto. Fig. 4 is a view in side elevation of the welt-guide and its supporting-arm detached. Fig. 5 is a view showing the welt-guide in section on the line 5 5 of Fig. 3.

At 1 is the base of the machine, at 2 is the post thereof, at 3 is the work-rest consisting of a plate mounted on the upper end of the said post, at 4 is the needle-bar, at 5 is the needle, at 6 is the cast-off bar, at the upper end of which the cast-off is mounted as usual, at 7 is the awl-bar, at 8 is the awl, at 9 is the thread-carrier, at 10 is the presser-foot, and at 11 is the seam-guide, which last is held adjustably to the upper surface of the work-rest by screws 12 12, passing through slots 13 13 in the shank of the same. The construction and operation of these parts are or may be as desired or usual, save as hereinafter indicated with reference to the work-rest and post.

At 14 is the welt-guide, it being made in one piece and being hollow and elliptical in cross-section. It is secured to the free end of a swinging arm 15, which latter at its rear end is mounted pivotally between center screws 16 16, passing through the lugs 17 17 on a supporting-plate 18, the said supporting-plate 18 being secured to the work-rest 3 by means of screws 19 19, passing through slots 20 20, formed in the supporting-plate, and being capable of adjustment, so as to place the free end of the welt-guide in the desired position relatively to the line of feed. The main stem or shank portion of the hollow welt-guide extends from the arm 15 in a line removed to some distance laterally from the stitching devices, the free end being continued entirely beyond a line extended transversely from the stitching devices—that is to say, the free end of the said welt-guide projects from the arm 15 to a point somewhat beyond a line passing transversely through the stitching devices and the line of feed indicated at 23 23 in Fig. 3.

The welt-guide is bent at substantially right angles so as to carry the free end thereof over toward the stitching devices, and the said free end is recurved slightly so as to bring the terminal portion of the welt-guide parallel with the line of feed. The shank portion of the welt-guide is sustained at a slight elevation above the upper surface of the work-rest, the elevation being sufficient to permit the lower one of the pieces of material which are being united to be passed under the welt-guide without coming in contact with any portion thereof except the ex-

treme tip or nose of the welt-guide, which last is depressed, as clearly shown. My object in locating the arm 15 and the shank portion of the welt-guide at some distance laterally from the stitching devices, and in bending the welt-guide so as to carry it forward of the line of feed, is to afford the operator full opportunity to see clearly the edge of the under piece of leather as the work advances to the stitching devices. In uniting two pieces of leather with a welt between them it becomes necessary to match the edges of the pieces. For example, in sewing the back seam of a shoe-upper it is desirable to have the side seams of the two halves of the upper matched, so that as the work advances to the stitching devices the side seam of the top half shall lie exactly above the side seam of the lower half. It is difficult to thus match the work unless the operator can see the edge of the under piece of leather just in advance of the stitching devices on the entering side, and the welt-guides now in use, so far as known to me, prevent the operator from doing so. My form of welt-guide, however, leaves the lower piece of leather fully exposed to view, as is clearly evident in Fig. 3, where the line 23 23 indicates the line of feed. By raising or elevating the shank portion of the welt-guide above the top surface of the work-rest, as shown, the guide is not raised or displaced by any seam or other unevenness in the lower piece of leather until such seam or unevenness reaches the nose or tip and just before the same passes to the stitching devices. This guards against the production of the poor work which would result if the welt-guide lay upon the under piece of leather for any considerable portion of its length. In the latter case any seam or unevenness would act upon the welt-guide as soon as it came beneath the same and while still at some little distance from the stitching devices, thereby forcing the welt-guide upwardly and holding its nose raised from the work for some considerable time. Obviously, also, when the tip or nose of the welt-guide is the only portion thereof which bears upon the work, the under piece of leather may be more easily entered beneath the welt-guide, and there is less friction as the said piece is fed forward.

To facilitate the operation of adjusting, matching, and guiding the two pieces of leather in the machine, the front portion of the work-rest in Fig. 1 is recessed or cut away transversely, as at 24, so that the greater portion of one end of the work-rest is lower at its upper surface than the other portion of the work-rest, a shoulder 25 being formed between the higher and the lower portions of the work-rest. This permits the operator to place a finger or fingers beneath the work in the machine without disturbing the position of the work and to adjust or guide the same as required, and it enables him to work more conveniently and speedily, and also to produce better results.

For the purpose of enabling the welt to be directed properly against the face of the seam-guide 11 the recurved tip or nose of the welt-guide is made slotted at the side thereof which is next the said seam-guide for a short distance in the direction of the length of the welt-guide, or otherwise is cut away, in order to permit the edge of the welt to project through the slot and pass into close contact with the proximate face of the seam-guide as the welt issues from the welt-guide.

In order to permit the welt-guide to be thrown back out of its working position into its idle or inoperative position, I mount the post 2 upon center screws 26 26, as shown clearly in Fig. 2. This enables the said post and the work-rest mounted thereon to be swung outwardly to carry the welt-guide away from the presser-foot, awl, and the adjacent parts, as is necessary when the said welt-guide has to be raised and thrown back, as aforesaid.

The seamless hollow welt-guide herein shown and described affords a perfect passage for the welting-strip through the same. It is stronger and less liable to injury than one made of parts which are united to one another by brazing or otherwise. It is less expensive to make than one of similar curvature made in the latter manner, and its shape and smoothness interiorly adapt it perfectly to receive and guide the welting-strip without obstruction or excessive friction.

What I claim is—

1. The combination with stitching devices, of the hollow welt-guide having the support thereof at one side of the line of stitching and the body thereof curved and extended laterally of the free extremity of the said guide and to the opposite side of the line of stitching, to leave the edge of the work open to unobstructed view at the inner side of such curved portion, substantially as described.

2. The combination with stitch-forming mechanism and a seam-guide 11 at one side thereof of the flattened hollow welt guide having the end thereof located in position to deliver a welting strip to the stitching devices and slotted or cut away on the side thereof next the said seam-guide 11 to permit the corresponding edge of the welt to pass laterally into contact with the said seam-guide, substantially as described.

3. The hollow seamless welt-guide, elliptical in cross-section, and curved to bring its delivery end substantially at right angles to its main stem, substantially as described.

4. The combination with the stitching devices, the presser-foot, the work-rest, and the pivoted post on which the work-rest is mounted, of the welt-guide pivotally mounted on the said work-rest at one side of the feeding-

line and having its tip extended into immediate proximity with the line of movement of the needle, substantially as described.

5. The combination with the stitching devices, of a work-rest cut away or recessed outside the line of the needle parallel with the line of stitching to receive the fingers of the operator, and a welt-guide having a passage therethrough for the welting-strip, substantially as described.

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

FRANK W. MERRICK.

Witnesses:
WM. A. MACLEOD,
CHAS. F. RANDALL.