

MCKAY & BLAKE.  
Sewing Machine.

No. 42,916.

Patented May 24. 1864.

Fig. 2.

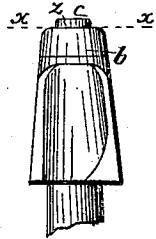


Fig. 1.

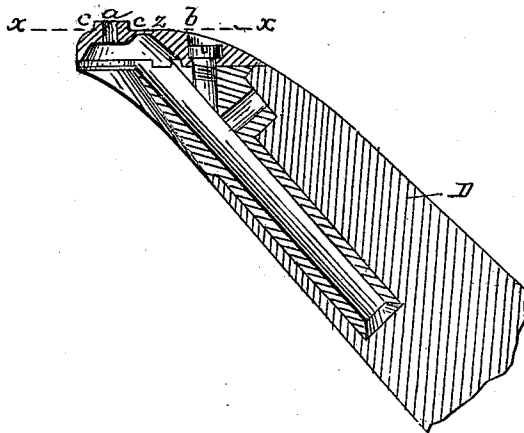
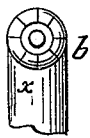


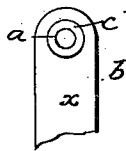
Fig. 4.



Witnesses:

*F. Gould.*  
*S. B. Kidder.*

Fig. 3.



Inventors:

*Gordon McKay.*  
*Lyman R. Blake.*

# UNITED STATES PATENT OFFICE.

GORDON MCKAY, OF BOSTON, AND LYMAN R. BLAKE, OF QUINCY, ASSIGNORS  
TO GORDON MCKAY, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SEWING-MACHINES FOR SEWING ON THE SOLES OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. 42,916, dated May 24, 1864.

*To all whom it may concern:*

Be it known that we, GORDON MCKAY, of Boston, in the county of Suffolk and State of Massachusetts, and LYMAN R. BLAKE, of Quincy, in the county of Norfolk and State aforesaid, have invented an Improvement in Sole-Sewing Machines; and we do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of our invention sufficient to enable those skilled in the art to practice it.

In an application for United States Letters Patent which we have prepared, bearing even date herewith, we have mentioned the employment, embodiment, or combination, with the "arm-sustained rest," so termed in Blake's patent, No. 20,775, and which is also shown in McKay and Mathies's patent, No. 36,163, of a gage against which is used a guide or pattern in the sewing of turns by the operation of the sole-sewing mechanism originally patented to Lyman R. Blake, said guide or pattern being formed out of or temporarily placed upon that surface of the sole of the turn which comes outermost in the finished boot or shoe and innermost while the sewing operation is being performed.

This modification of or improvement upon Blake's original invention is of course subordinate thereto, and is partially described in the aforesaid application; but as it was not therein made the subject of claim we herein set forth fully the nature and extent of the invention.

The device which in Blake's aforesaid patent is called the "arm D" has by common usage come to be termed the "horn," and the salient end of said arm, which receives the thrust of the needle, and which contains the thread-carrier or looper, and which is termed in said patent the "rest *b*," has received the appellation of the "tip of the horn." (In the drawings we retain the letters *b* and *D* to indicate their counterparts, shown by the same letters in Blake's aforesaid patent.) The upper surface of the horn-tip has heretofore sometimes been made flat, sometimes slightly convex to allow a rocking movement to be given to the shoe, and sometimes concave, for

reasons connected with a proper drawing up or tightening of the stitches, and the upper corners of the tip of the horn have been slightly rounded over from the general surface.

Our invention consists in applying to the upper surface of the horn and surrounding the hole therein which the needle enters a marked prominence of sufficient height, and with an outline well enough defined to enable said prominence to be used for its function of a gage—that is to say, the prominence must be sufficient to enable the operator to tell by the sense of feeling when the edge of the guide or pattern is in proper contact with the gage.

Figure 1 denotes a vertical longitudinal section taken through the tip of the horn *b* and through the horn *D* itself, a small portion only of which is shown. Fig. 2 denotes an end view of the tip of the horn, and Fig. 3 a plan of the same.

The gage on the tip *b* is represented by *c*, and the needle-hole in the tip *b* is marked *a*. As said hole extends through the gage *c*, it may be said that the form of *c* (shown in Figs. 1, 2, and 3) is that of a ring or short cylinder, or it may be a frustum of a cone surrounding the needle-hole *a*, and placed on the surface *x* of the tip *b*, which surface is in the plane of the red lines shown in Figs. 1 and 2.

Fig. 4 shows in plan a modification of the form of the gage *c*, as drawn in the Figs. 1, 2, and 3. In this figure the gage *c* is shown formed as a frustum of a cone, rather than as a short cylinder, as shown in the other figures of the drawings.

The manner in which the horn-tip, having upon it the gage *c*, is employed will best be understood by describing how a turn is made thereupon. The sole of the turn is slightly secured to a proper last, with its rough face outermost, the sole first having a pattern placed or made on its other face, the edge of which pattern being located inward from the edge of the sole a distance equal to the radius of *c* plus the distance desired of the center of the seam from the edge of the sole. Said pattern may be a piece of any suitable flexible material—leather, for example—or thin metal, or it may be made by turning over a flap

formed from the sole itself, which, when turned back and secured in the position which it originally occupied, hides the stitches from sight on the finished surface of the sole. The thickness of the pattern should not exceed the height of gage *c* from surface *x*, and where a thin flap is turned back for a pattern a piece of thin sheet metal or other suitable flexible material may be secured on the flap to increase the thickness of the pattern, the edge of which, however made, the operator, in the act of sewing, keeps pressed up against the circumference of *c*. When the sole is thus prepared and placed on the last the vamp is drawn over the last and upon the rough exposed surface of the sole to a distance from its edge greater than the distance of the seam therefrom, and is temporarily secured to the sole, the use of small tacks being preferred for this purpose. The last is now pulled out of the shoe, which is slightly held together, the parts being arranged inside out. The operator then sews the vamp and sole together on a machine having a horn with the gage *c* and other suitable mechanism—such, for example, as is described in the Patents No. 20,775 and No. 36,163. The surface of the pattern rests upon or is immediately over the surface *x*, while the surface on which the plain side of the chain-stitches

appear rests upon the upper surface of the gage *c*. When the sewing is completed the boot or shoe is turned so as to bring the right side outermost, and the article is finished as is common with hand-sewed turns.

Where boots and shoes are sewed right side out, as described in Blake's Patents No. 29,561 and No. 29,562, the operator can see the edge of the sole and any line or channel upon or in the surface of the sole, and can therefore guide and control the movements of the work or of the mechanism performing the work, or both, so that the seam will be located where desired; but in sewing turns, as described, the vamp covers a portion of the sole and its edge, rendering such guidance impossible. Hence resort must be had to the use of the gage and pattern.

We claim—

The construction of the tip of the horn, substantially as and for the purpose specified.

Executed by us this 26th day of January, A. D. 1864.

GORDON MCKAY.  
LYMAN R. BLAKE.

In presence of—

J. B. CROSBY,  
F. GOULD.