

F. D. BALLOU.
Wax-Thread Sewing-Machines.

No. 158,883.

Patented Jan. 19, 1875.

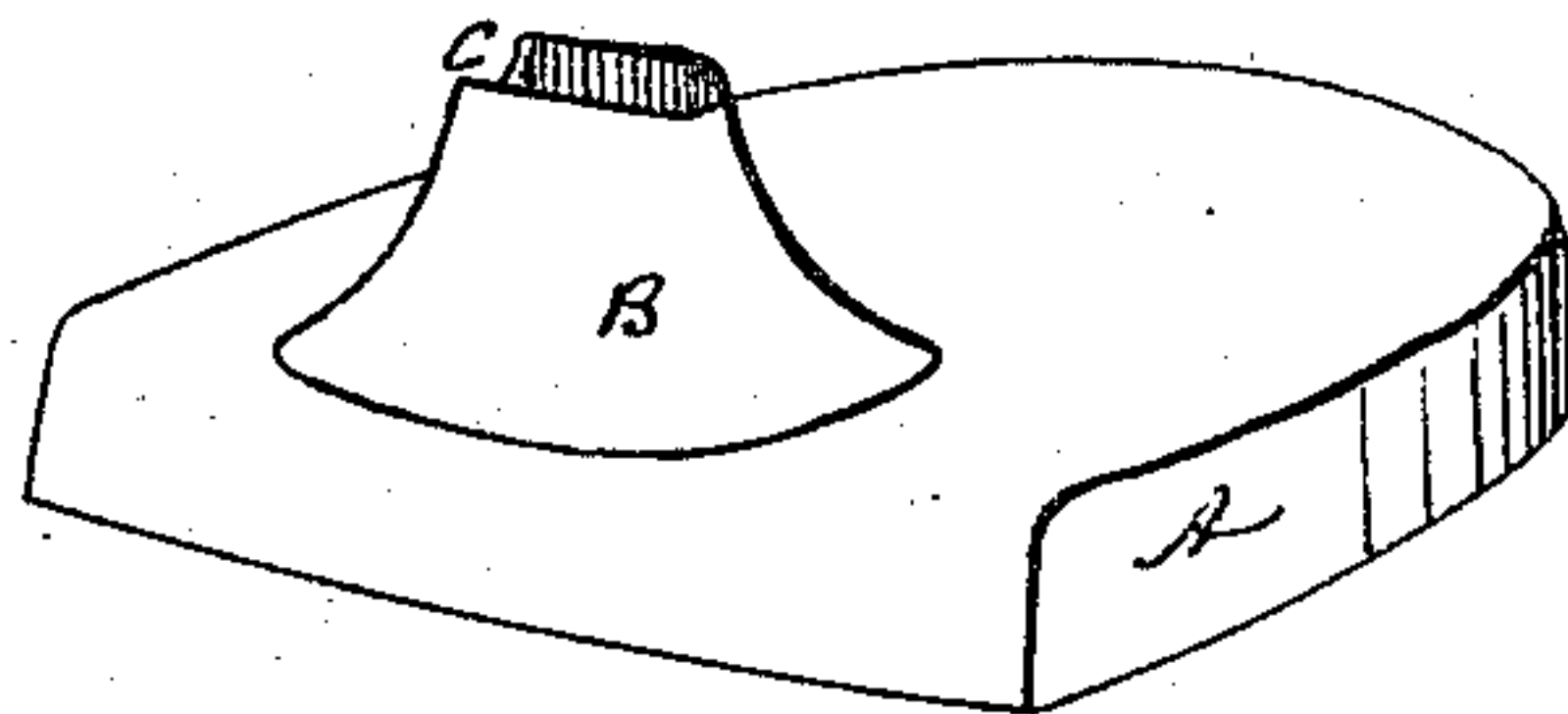


Fig 1.

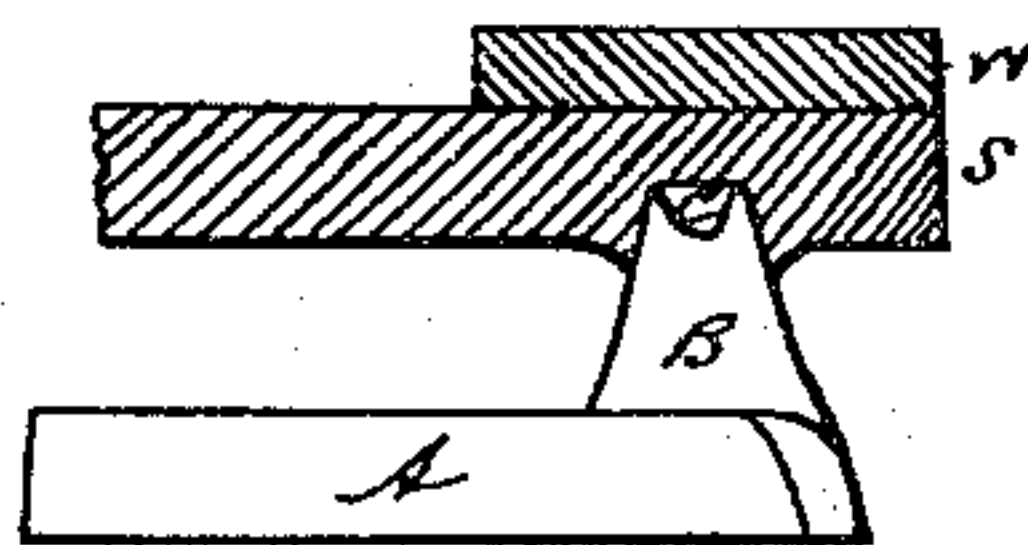


Fig 2

Witnesses
Geo W. Copeland.
Hebron Libbey

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UNITED STATES PATENT OFFICE.

FRANCIS D. BALLOU, OF ABINGTON, MASSACHUSETTS.

IMPROVEMENT IN WAX-THREAD SEWING-MACHINES.

Specification forming part of Letters Patent No. **158,883**, dated January 19, 1875; application filed July 31, 1874.

To all whom it may concern:

Be it known that I, FRANCIS D. BALLOU, of Abington, Massachusetts, have invented an Improvement in Wax-Thread Sewing-Machines, of which the following is a specification:

This invention relates to an attachment for sewing-machines, especially those working with the hook-needle, and is particularly adapted for channel-sewing on the soles of boots and shoes when the welt and sole are to be united outside the upper, as in ordinary welted shoes. It consists of a plate to be attached to the working-plate of a machine at or near the "throat," or used in lieu thereof, and carrying a teat surrounding the throat, forming a raised throat. With the awl and needle feeds this works very well. The upper part of the teat is tapered almost to an edge, and its upper section is as small as possible. It is longer in the direction of the feed than from side to side.

In the drawings, Figure 1 is a perspective. Fig. 2 is a section.

A is the plate to be attached to the working-plate of the machine, or to be used as the working-plate. B is the teat, of somewhat pyramidal form, with a broad base for strength, and a top as small as convenient. It is placed near the edge of the plate A, or the working-plate of the machine, and has an axial slot in it, through which the perforating and stitching mechanism works. One end of the teat B is notched, as shown at *c*, to allow the passage of the thread when this is necessary. The leather or other article to be sewed has a channel formed in it by grooving and displacement of a portion thereof about the width of the throat, as shown in Fig. 2. This serves as a guide to the work.

This arrangement allows the work to be tilted on both sides while sewing, and serves as an aid in manipulation. The whole constitutes a raised throat. The height of the edge of the throat from plate A, for boots and shoes, need not be more than about half an inch, and for most shoe work a quarter of an inch will be sufficient.

In the patent granted me on January 22, 1861, there is on the outside of the throat a shield or guard, which sends up a projection

which enters the channel, and serves in part as a guide to the work. In so far as the present device serves as a guide exterior to the needle, it is an improvement on that. It, however, is attached to the top plate of the post instead of, as in the former case, to the side shield, and it is a contrivance which serves, in combination with the deep and wide channel used by the applicant, as shown in Fig. 2, to guard and gage the work without other devices.

In the Destouy patent of February 18, 1862, a pair of bars are used to form the throat, one of which is thick and wide, to serve as a rest for the work in uniting the upper and insole and welt together by a curved needle, the sole of the shoe being nearly vertical and parallel to the diameter of the arcs in which the curved needle and awls work. This cannot be sharp, as in the present invention, as it would give less bearing-surface than necessary to support the work. Neither does this project from a flat work-plate, so as to allow great facility in turning the shoe.

The work to be done on this throat could not be done on the Destouy machine, because the two bars of that would not fit the channel, nor would the arrangement of that machine allow the turning of the work to sew round the toe, as this will. Neither could the work of the Destouy machine be done on this device, as the area of support is too small.

The clearest distinction between the two is this: In the Destouy contrivance the work is done by the top of the bars around and forming the throat for the needle. In the present contrivance the work is done by the sides of the parts surrounding the needle.

It will be observed by inspection of Fig. 2 that the throat is embedded in the channel of the leather, and that the two long sides guide the work by contact with the sides of the channel, the leather being held in place by a deep presser-foot, which I do not here show or describe, as it is common for such work to use a deep presser-foot.

I am aware that the Blake machine has been made with a boss around the throat, serving to guide the work by contact with the edge of the upper inside the shoe on one side, and used without a channel to contact around it,

and I am also aware of the patented machine of Destouy; but I am not aware that a throat placed near the edge of a table was ever surrounded by a high and narrow wall, as this is, which served positively to compel the setting of stitches in the places prepared for them with so little care; and I believe this to be caused by the use of this throat in combination with the described channel.

I claim as my invention and desire to secure by Letters Patent—

In a wax-thread sewing-machine for sewing the outer seam of boot and shoe soles, an ele-

vated work-support located at or near the edge of the work-plate, and forming a thin wall to the needle-throat higher than the depth of the channel in the sole, and of such size, in plan, that, in the work of the machine, it is lapped to the depth of the channel by the sides of the channel, substantially as and for the purpose described.

FRANCIS D. BALLOU.

Witnesses:

GEO. W. COPELAND,
HEBRON LIBBEY.