(No Model.)

A. EPPLER, Jr.

SOLE LAYING MACHINE.

No. 304,416. Patented Sept. 2, 1884.

Fig. 1.

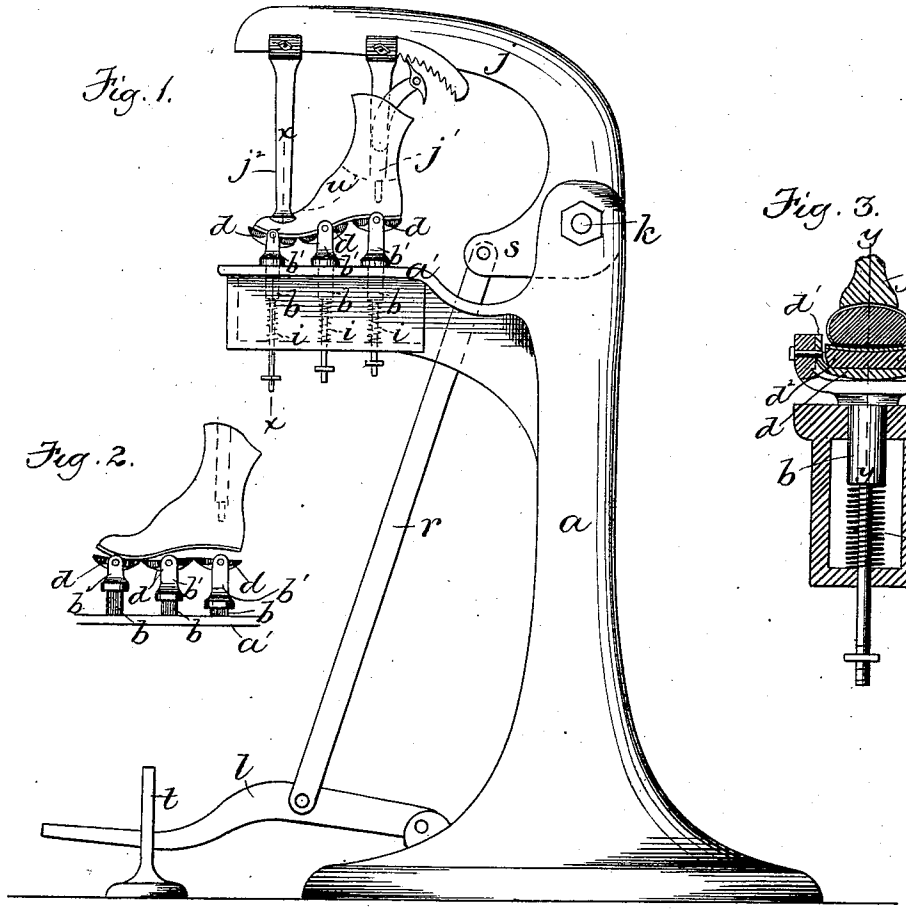
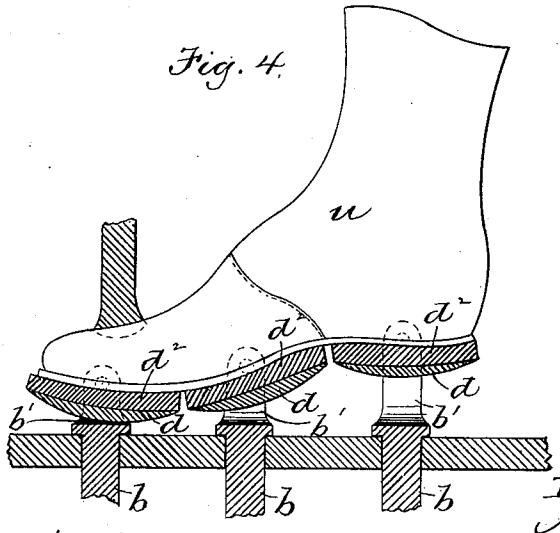


Fig. 2.

Fig. 3.

Fig. 4.



Witnesses.
A. L. White
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UNITED STATES PATENT OFFICE.

ANDREW EPPLER, JR., OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE BOOT AND SHOE SOLE LAYING COMPANY, OF PORTLAND, MAINE.

SOLE-LAYING MACHINE.

SPECIFICATION forming part of Letters Patent No. 304,416, dated September 2, 1884.

Application filed July 1, 1884. (No model.)

To all whom it may concern:

Be it known that I, ANDREW EPPLER, Jr., of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Sole-Laying Machines, of which the following is a specification.

This invention has for its object to provide improved means for pressing an outer sole against a lasted upper, to cause the sole to bear closely against all parts of the portions or edges of the upper that are turned inwardly under the last, so that cement applied to the sole or to the upper, or both, will cause the sole to adhere properly to the upper until it can be permanently attached by nailing, stitching, or otherwise.

My invention consists, as a whole, in an organized machine comprising a series of swiveled pads or sectional supports adapted collectively to support the sole, and means for pressing the lasted upper against said supports.

The invention also consists in certain details of construction, all of which I will now proceed to describe and claim.

Of the accompanying drawings forming a part of this specification, Figure 1 represents a side elevation of a sole-laying machine embodying my invention. Fig. 2 represents a side elevation of a portion of the machine, showing the position of the sectional supports before the sole and upper are pressed fully against them. Fig. 3 represents an enlarged section on line *x x*, Fig. 1. Fig. 4 represents a section on line *y y*, Fig. 3.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents a supporting-standard, having an arm, *a'*. Fitted to slide vertically in sockets in said arm are standards *b*, having their upper ends, *b' b'*, forked or U-shaped, and supported below by springs *i*, which normally press the standards upwardly. To the ends *b' b'* of each standard is pivoted a block or plate, *d*, having ears *d' d'* and a covering, d^2, of soft vulcanized rubber or other suitable yielding material. Said blocks *d* are arranged in a series so that they will support a sole, as shown in Figs. 1 and 4. The lasted upper *u* is secured to a jack, *j*, which is pivoted at *k* to the standard *a* and provided with an adjustable spindle, *j'*, to enter the last, and with a toe-rest, j^2. The jack is pressed toward the blocks or sectional supports *d d d* by means of a treadle-lever, *l*, connected by a rod, *r*, with an arm, *s*, on the jack. A fixed bar, *t*, having teeth or notches, engages with the lever *l*, and holds it at any point to which it may be depressed by the operator's foot, and maintains the pressure thus produced. Before pressure is exerted on the upper, the standards *b b b* and their blocks *d d d* are held in elevated positions by springs *i i i*, the blocks being then arranged so that the upper, in being depressed, will bear first on the block at one end, (preferably at the toe,) then at the center, and finally at the opposite end. This arrangement is adapted to enable the operator to swing the sole, if desired, after it is grasped at one end, between the last and the first block, *d*, and thus insure the proper position of the sole when the other parts of the last are brought to bear forcibly on it. As the downward pressure continues the blocks are depressed until shoulders on the standards *b* come to a rigid bearing on the arm *a'*.

It will be seen that the support afforded by the series of pivoted yielding-surfaced blocks *d* is one which adapts itself readily to the curvature of the bottom of the lasted upper, and enables sufficient pressure to be applied to all parts thereof, the concavity at the shank receiving substantially the same degree of pressure as the convex portions. Heretofore a continuous flexible diaphragm backed by a water-space has been employed for the same purpose, as shown in my pending application for Letters Patent filed April 17, 1884, Serial No. 128,224; but it is found that the flexible support thus afforded does not act equally on all parts of a sole pressed against it, some portions receiving insufficient pressure. This defect is entirely obviated by the present improvement.

I do not limit myself to pressing the upper and sole against the sectional supports, for the upper may be fixed and the blocks *d* may be pressed against the sole without departing from the spirit of my invention; neither do I limit myself to the employment of the springs *i*, for, if desired, the standards *b* may be affixed to their support.

I claim—

1. In a sole-laying machine, a sole support or bearing composed of a series of yielding-surfaced pivoted blocks or pads arranged to press upon the sole independently of each other, as set forth.

2. In a sole-laying machine, the combination of a series of yielding-surfaced pivoted blocks or pads and a jack or holder for a lasted upper, as set forth.

3. In a sole-laying machine, the combination of a series of yielding-surfaced blocks or pads pivoted to sliding standards *b*, springs *i*, supporting said standards, a movable jack having last-supporting devices, and means, substantially as described, for pressing the jack toward said blocks, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses this 24th day of June, 1884.

ANDREW EPPLER, JR.

Witnesses:
C. F. BROWN,
A. L. WHITE.