(No Model.) 2 Sheets—Sheet 1.

V. F. LAKE.

MACHINE FOR CEMENTING SOLES TO BOOTS OR SHOES

No. 425,544. Patented Apr. 15, 1890.

FIG. 2.

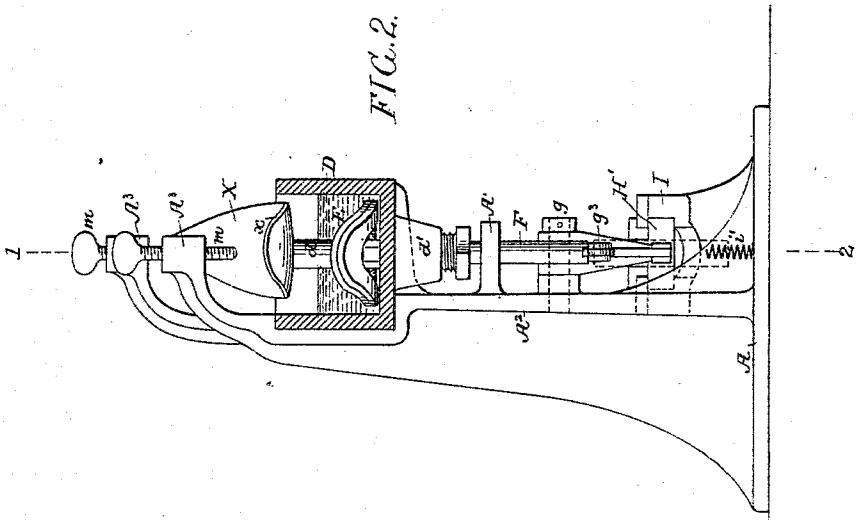
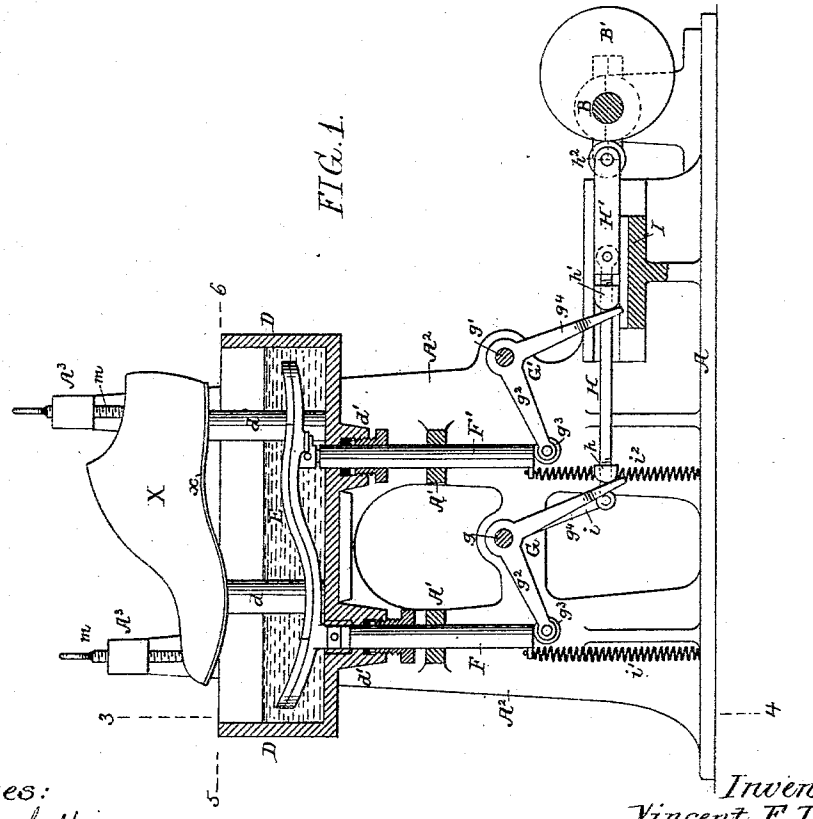


FIG. 1.



Witnesses:
Alex. Barkoff
Edward M. Foley

Inventor:
Vincent F. Lake
by his Attorneys
Howson & Howson

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

V. F. LAKE.

MACHINE FOR CEMENTING SOLES TO BOOTS OR SHOES.

No. 425,544. Patented Apr. 15, 1890.

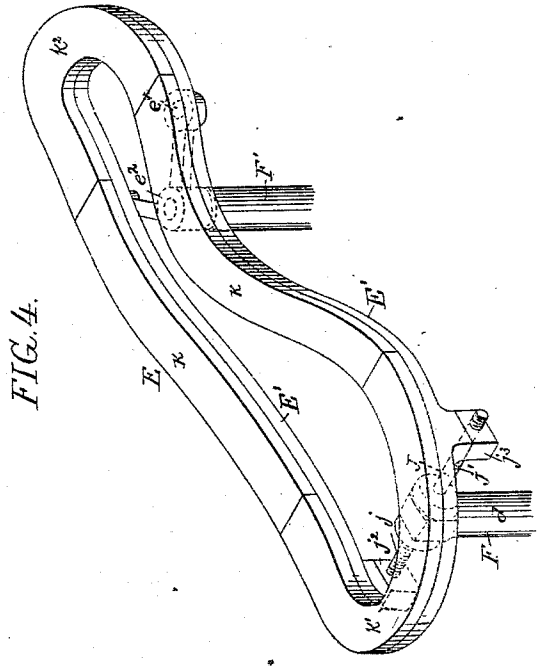


FIG. 4.

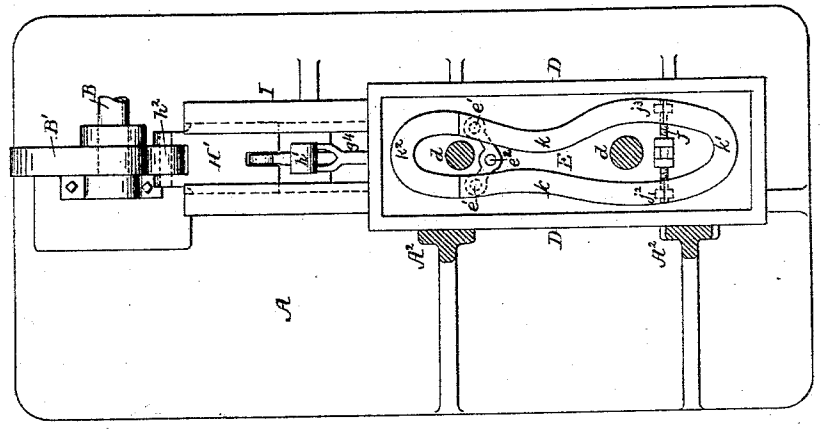


FIG. 3.

Witnesses:
Alex. Barkoff
Edward M. Dailey

Inventor:
Vincent F. Lake
by his Attorneys
Howson & Howson

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

VINCENT F. LAKE, OF PLEASANTVILLE, ASSIGNOR TO THE WHIFFEN-LAKE LASTING MACHINE COMPANY, OF HAMMONTON, NEW JERSEY.

MACHINE FOR CEMENTING SOLES TO BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 425,544, dated April 15, 1890.

Application filed July 26, 1888. Renewed April 26, 1889. Serial No. 308,767. (No model.)

To all whom it may concern:

Be it known that I, VINCENT F. LAKE, a citizen of the United States, and a resident of Pleasantville, Atlantic county, New Jersey, have invented certain Improvements in Machines for Cementing Insoles of Boots and Shoes Prior to Lasting, of which the following is a specification.

My invention consists of mechanism for applying glue or other cement to the insoles of boots and shoes prior to lasting, the object of my invention being to automatically and thoroughly apply the glue or cement to the under portion of the insole throughout such portions of the same as have to be cemented.

In the accompanying drawings, Figure 1 is a longitudinal section of my improved cementing-machine on the line 1 2, Fig. 2. Fig. 2 is a transverse section on the line 3 4, Fig. 1. Fig. 3 is a sectional plan view on the line 5 6, Fig. 1; and Fig. 4 is a perspective view of the cementing-pad.

In the manufacture of boots and shoes by the process described in a separate application filed by me, and bearing even date herewith, the use of tacks is avoided and cement is used for the purpose of securing the upper and insole together, glue being ordinarily employed, although any other available cement may be used.

Referring to the drawings, A is the base-plate of the machine, and B is a driving-shaft, on which is a cam B′, which, through the medium of the devices described hereinafter, imparts a reciprocating movement to the cementing-pad E, which is contained in a reservoir D, mounted on a suitable frame-work. In the reservoir D are two standards *d d*, which support the last X, the latter having the insole *x* secured to its bottom by means of a couple of tacks or other temporary fastenings. The cementing-pad E is supported on two vertical rods F F′, one near the toe portion and one near the heel portion of the pad, these rods passing through stuffing-boxes *d′* on the under side of the reservoir D, and being guided by cross-frames A′ on the upright standards A^2. On said standards are studs or pins *g g′*, to which are hung two bell-crank levers G G′, the arms g^3 of these levers having at their outer ends anti-friction rollers g^3, which act upon the lower ends of the vertical rods F F′. The other arms g^4 of the levers bear, respectively, against nuts *h h′* on a rod H, which is pivoted at one end to a slide H′, having a roller h^2, which is acted upon by the cam B; the other end of the rod being supported by an arm or link *i* hung from the stud *g*. The slide H′ is guided in a suitable bearing I on the standards A^2, and springs i' i^2 are connected to the base-plate of the machine and to the lower portions of the vertical rods F F′, the tendency of the springs being to draw the rods against the rollers g^3 of the levers G G′, and hence maintain the roller h^2 of the slide H′ constantly in contact with the cam B′.

In order that the cementing-pad E may apply the cement accurately or within the proper limits to insoles of different sizes, I make said pad adjustable and the toe and heel portions removable.

The pad-holder E′ is divided longitudinally, each section being pivoted at *e′* to a head e^2 on the upper portion of the vertical rod F′, and on the front rod F is a double-ended screw J, having a right and left hand thread *j j′*, one thread being adapted to a nut j^3 on one section of the holder, while the other thread is adapted to a nut j^3 on the other section, so that by turning the screw J in one direction the sections of the pad-holder will be separated, and by moving the screw in the opposite direction they will be drawn together.

On the holder E′ are felt side pads *k k* and toe and heel pads *k′* k^2, assorted sizes of toe and heel pads being used to accord with the adjustment of the pad-holder.

Above the reservoir D, and projecting from the standards A^2, are brackets A^3, carrying set-screws *m m*, which bear upon the last, as shown in Fig. 1, and serve to properly confine the same to its seat on the studs *d d*.

The adjustable nuts *h h′* on the shaft H permit the independent vertical adjustment of either the toe portion or heel portion of the cementing-pad so that the same may be adapted for either high or low heeled shoes.

In using the machine the reservoir D is partially filled with the glue or other cement, which is maintained in a liquid condition by heat or otherwise, the reciprocating motion

of the cementing-pad being such that when at the downward limit of movement it will be immersed in the cement, and when at the limit of its upward movement will be pressed firmly against the under side of the insole *x* on the bottom of the last, the latter, with its insole, being properly supported upon the stud *d* and held in position thereon by means of the set-screws *m m*, which are preferably so adjusted that the last can be readily applied to or removed from its position on the stud *d*. On every downward movement of the pad, therefore, the upper surface of the same will be coated with cement, and on the upward movement this cement will be applied to the under face of the insole around the edge of the same, in proper position for securing the upper when the latter has been lasted over the insole.

The shaft B is preferably rotated continuously, so that the constant movement of the cementing-pad and its holder in the reservoir D insures such an agitation of the cementing-liquid as to prevent the same from settling or the formation of a scum upon it.

I claim as my invention—

1. In a machine for cementing the insoles of shoes prior to lasting, the combination of a cement-reservoir, a support for the last, with a cementing-pad mounted in said reservoir, and mechanism for reciprocating said pad toward and from the last, substantially as described.

2. The combination of the pad-holder having opposite pivoted sections, with a right and left hand screw adapted to nuts on said sections, substantially as described.

3. The cementing-pad composed of sections adjustable to accord with the different sizes of the soles, substantially as described.

4. The combination of the pad-holder with the opposite side pads, and detachable heel and toe pads, substantially as described.

5. The combination of a cement-reservoir, a cementing-pad, mechanism for reciprocating said pad with last-supporting posts, and overhanging brackets having set-screws adjusted to the last, substantially as and for the purpose described.

6. The combination of the reservoir, the support for the last, with a cementing-pad independently adjustable at toe and heel to accord with the contour of the last, and mechanism for reciprocating said pad toward and from the last, substantially as described.

7. The combination of the reservoir, the cementing-pad, vertical rods carrying the same, a reciprocated operating-rod, and interposed bell-crank levers, all substantially as specified.

8. The combination of the cementing-pad, the vertical rods carrying the same, draft-springs acting thereon, a reciprocated operating-rod, and bell-crank levers interposed between the reciprocated rod and the rods carrying the pad, substantially as described.

9. The combination of the reservoir with the cementing-pad, the vertical rods carrying the same, the bell-crank levers, and the reciprocated operating-rod having nuts, whereby either of the levers may be adjusted independently of the other, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

VINCENT F. LAKE.

Witnesses:
WILLIAM D. CONNER,
HARRY SMITH.