

(No Model.)

C. D. WOOD.
SOLE LAYING MACHINE.

No. 328,446.

Patented Oct. 13, 1885.

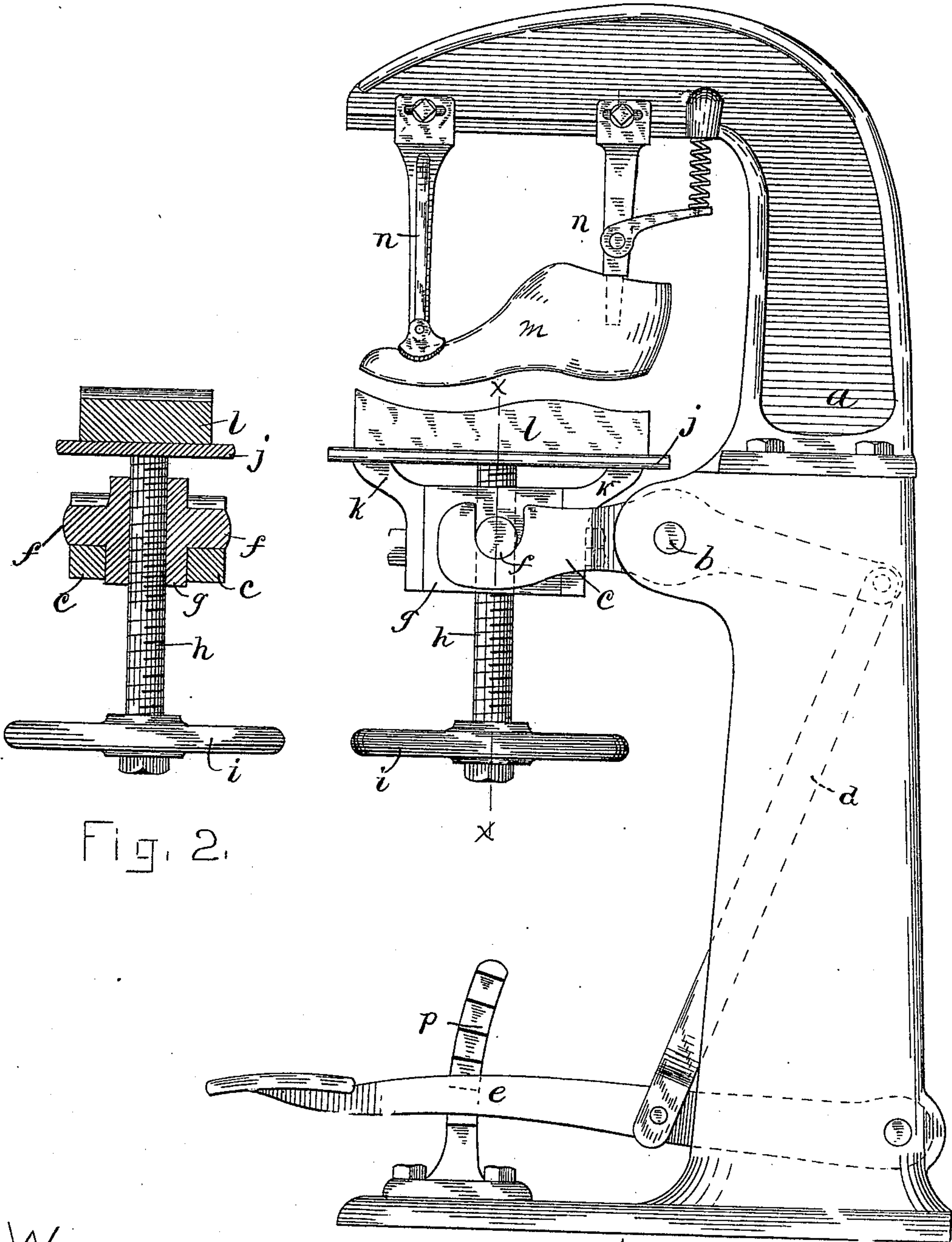


Fig. 2.

Fig. 1, INVENTOR,
C. D. Wood
by *Night & Brown*
Atty.

WITNESSES:
A. L. White
Wm. Batchelder

UNITED STATES PATENT OFFICE.

CHARLES D. WOOD, OF LINCOLN, RHODE ISLAND, ASSIGNOR TO THE BOOT AND SHOE SOLE LAYING MACHINE COMPANY, OF PORTLAND, MAINE.

SOLE-LAYING MACHINE.

SPECIFICATION forming part of Letters Patent No. 328,446, dated October 13, 1885.

Application filed February 11, 1885. Serial No. 155,620. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. WOOD, of Lincoln, in the State of Rhode Island, have invented certain new and useful Improvements in Sole-Laying Machines, of which the following is a specification.

This invention relates to machinery for pressing a cement-coated outer sole against a lasted boot or shoe upper and to hold the same in contact with the upper while the cement is hardening.

The object of the invention is to provide improved means for exerting pressure on the sole against the lasted upper; and to this end it consists in improvements, which I now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of the sole-laying machine embodying my invention. Fig. 2 represents a section on line *x x*, Fig. 1.

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

In the drawings, *a* represents a supporting post or standard, to which is pivoted at *b* a forked lever, *c*, which is connected by rod *d* to a treadle-lever, *e*. The forked end of the lever *c* has sockets which receive trunnions *f f* on a block or nut, *g*.

h represents a screw working vertically in said block or nut, and provided with a hand-wheel, *i*.

j represents a plate bearing on the upper end of the screw *h* and upon ears *k k* on the nut *g*. Said plate is capable of rising and falling with the screw *h*.

l represents a block of elastic rubber, all parts of its rear or under surface bearing on said plate, placed on the plate *j*, and having its upper surface molded to fit the longitudinal curvature of the bottom of the last *m*, on which the boot or shoe is held while the outer sole is being applied to it. The block *l* is thick and elastic, to enable all parts of its sole-supporting surface to yield equally when the block is pressed against the last, or against a sole interposed between the block and the last, so that all parts of the sole will be pressed closely against the bottom of the last and caused to conform to the shape thereof.

The last *m* is supported by a jack of any suitable

construction, here shown as two standards, *n n*, provided, respectively, with a toe-rest and with a spindle to enter the sockets in the rear portion of the last, said standards being attached to an arm formed on the post or standard *a*.

The operation is as follows: The outer sole being coated with cement is placed upon block *l*, and the latter is raised by the depression of the treadle-lever *e*, until the sole is pressed against the last with all the force the operator is capable of exerting through said lever. The lever *e* being then held by a suitable retaining device, *p*, the operator grasps the hand-wheel *i* and rotates the screw in the proper direction to raise the plate *j* with the block *l*, and thus give the sole an additional upward pressure. The sole may thus be pressed with any desired degree of force against the upper, and is held by the described mechanism while the cement is setting or hardening.

The rubber block *l* may be placed loosely on the plate *j*, if desired, or may be suitably attached thereto.

Owing to the elasticity of said block, its upper surface is capable of yielding and conforming to variously formed or curved lasts, so that a single block, *l*, can be used with several styles of lasts. The sole-supporting surface of the block *l* may be formed by means of a grinding-wheel acting on the block of rubber, the wheel being guided by a suitable form or pattern.

I am aware that an elastic rubber surface molded to conform to the bottom of a last has been used in machines for pressing cemented soles against lasted uppers; but in all instances of such use of which I am aware the rubber block has been supported by a flexible diaphragm, and not by a rigid surface against which the entire rear or bottom surface of the elastic block bears like the plate *j* in the present invention. The rigid supporting surface bearing on all points of the bottom of the blocks causes the elasticity of the rubber to exert pressure on all parts of the sole.

A diaphragm having a water or air space behind it cannot press evenly against all parts of the sole, but necessarily presses with more

force upon the marginal portions of the sole than the central portions. This is not the case with my elastic block, the continuous or extended support afforded by the plate *j* causing all parts of the block to be equally im-
 5 pressed by the pressure exerted, and therefore to exert a uniform pressure on all parts of the sole.

I do not limit myself to the form of jack or
 10 last-support shown and described, nor to the specific devices shown for pressing the rubber block and its elastic support toward the last.

The nut or support in which the screw works may be rigid instead of movable, if
 15 preferred, in which case the jack will be made as shown in the application of A. Eppler, Jr., filed herewith, or in any other suitable manner to enable the preliminary pressure to be applied, the screw being afterward operated
 20 to give the final pressure.

I am aware that a solid block of rubber molded to the shape of a sole and supported by a rigid bed or plate has been used to support cement-coated soles while lasted uppers
 25 were being pressed against them; hence I do not claim, broadly, an elastic block supported by a rigid plate.

I claim as my invention—

1. In a sole-laying machine, the combination of a fixed jack, a solid bed or block of elastic
 30 material, plate of rigid material bearing against the entire rear or bottom surface of said block, foot-power mechanism, substantially as described, for pressing said plate and block to-
 35 ward the jack, a holding device, as *p*, whereby said pressure may be maintained, and a screw working in a suitably-supported nut or socket and bearing directly against said plate, whereby the block may be additionally
 40 pressed against the sole, as set forth.

2. The combination of the lever *c*, the nut
 45 *g*, supported by said lever, means, substantially as described, for operating the lever, the screw *h*, working in said nut, the rigid plate *j*, supported by the screw, and the elastic block *l* on said plate, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 7th day of February, 1885.

CHARLES D. WOOD.

Witnesses:

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