

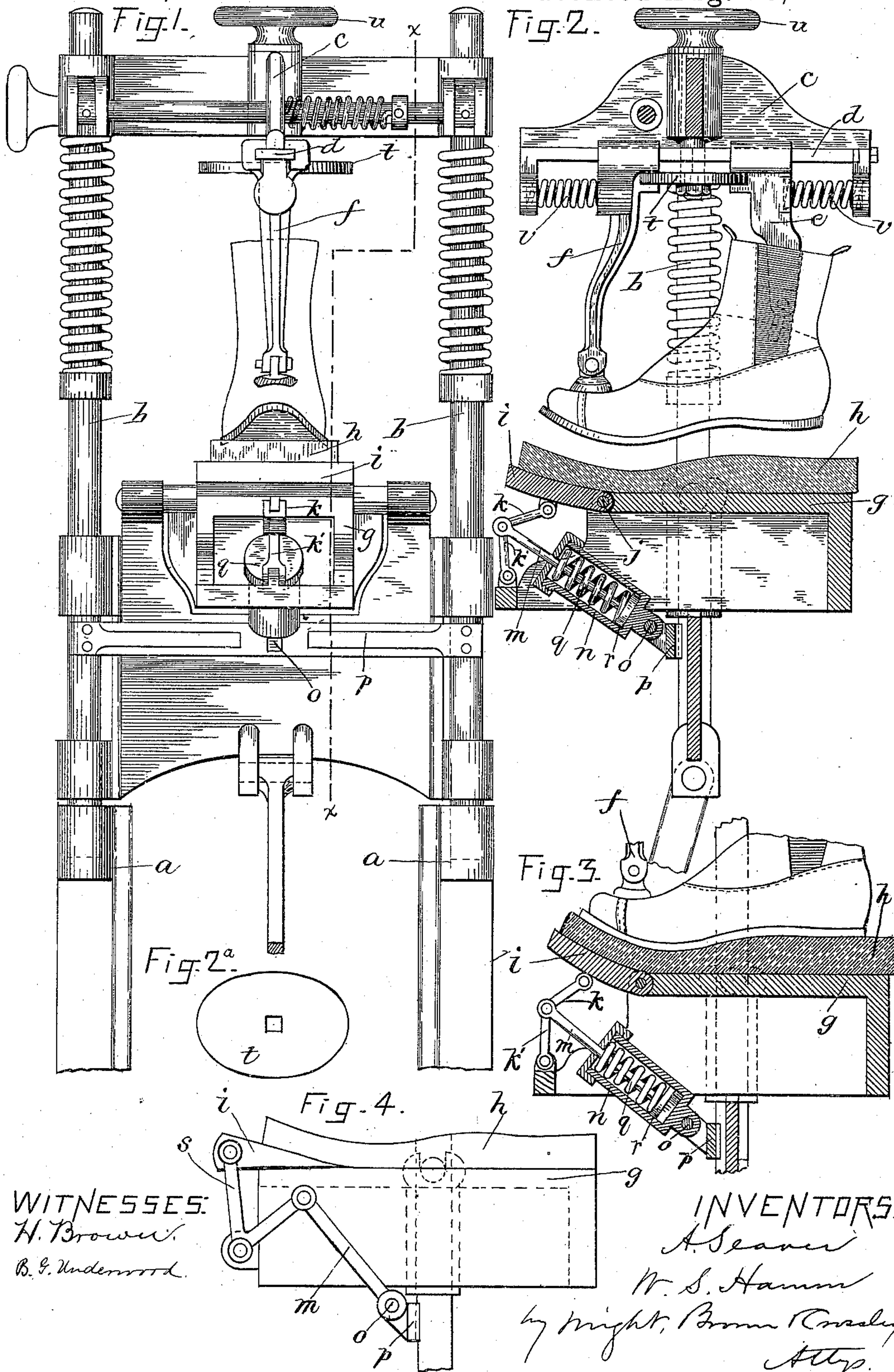
(No Model.)

A. SEAVER & W. S. HAMM.

SOLE LAYING MACHINE.

No. 368,496.

Patented Aug. 16, 1887.



WITNESSES:
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UNITED STATES PATENT OFFICE.

AUGUSTUS SEAVER, OF BOSTON, AND WILLIAM S. HAMM, OF NEWTON,
MASSACHUSETTS, ASSIGNORS TO THE BOOT AND SHOE SOLE LAYING
COMPANY, OF PORTLAND, MAINE.

SOLE-LAYING MACHINE.

SPECIFICATION forming part of Letters Patent No. 368,496, dated August 16, 1887.

Application filed May 9, 1887. Serial No. 237,526. (No model.)

To all whom it may concern:

Be it known that we, AUGUSTUS SEAVER and WILLIAM S. HAMM, residents, respectively, of Boston, in the county of Suffolk and State of Massachusetts, and of Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Sole-Laying Machines, of which the following is a specification.

This invention has for its object to enable the curvature of the toe-supporting portion of the sole-pressing pad of a sole-laying machine to be varied to adapt said pad to differently-curved last-bottoms.

It also has for its object to provide improved devices whereby the simultaneous adjustment of the toe and heel supporting standards of the jack may be effected.

To these ends the invention consists in the improved devices which we will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a front elevation of a sole-laying machine provided with our improvements. Fig. 2 represents a section on line *x x*, Fig. 1, showing the sole-pressing pad depressed. Fig. 3 represents a similar section showing said pad raised. Fig. 4 represents a modification. Fig. 2^a represents a top view of the cam which adjusts the jack-standards.

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

In the drawings, *a* represents the supporting base or frame of the machine, on which are the two vertical parallel guide-rods *b b*.

c represents the jack-supporting cross-head adapted to slide on said guide-rods, and provided with a horizontal guide, *d*, on which are adapted to slide the heel-supporting standard *e* and toe-supporting standard *f*, constituting the last-supporting jack.

g represents the holder for the elastic sole-pressing pad *h*. Said holder is a metallic plate or bed suitably fitted to slide on the guide-rods *b*.

Suitable devices are provided for raising and depressing the jack-supporting cross-head and the pad-holder; but as such devices form no

part of the present invention we do not show nor describe them, but refer to Letters Patent No. 362,447, granted May 3, 1887, to the Boot and Shoe Sole Laying Company, assignee of Charles E. Holland, as an example of an organized machine to which the improvements forming the subject of our invention are applicable.

In carrying out our invention we provide the forward or toe-supporting portion of the elastic pad *h* with a movable support, *i*, which is adapted to be moved so as to raise the toe portion of the pad, and thus vary the longitudinal contour of the sole-pressing surface of the pad, and enable it to conform to lasts having a greater or less curvature of the forward portion of its bottom. In some lasts the bottom curvature is such as to raise the toe higher than in other lasts, and it is our object to enable the pad to conform to all such variations. We prefer to accomplish this by automatic means, and to cause the toe portion of the last to rise at the same time that the pad-holder is raised to press the sole against the bottom of the last. To this end, as shown in Figs. 1, 2, and 3, we make the toe supporting end of the pad-holder in a separate piece, which is the movable support *i*, the same being pivoted at *j* to the holder *g*, and adapted to swing vertically, and thereby raise or lower the toe portion of the pad.

k k' represent toggle-links pivoted together at their meeting ends, the link *k* being pivoted also to the swinging end of the movable support *i*, and the link *k'* to a portion of the pad-holder *g*.

m represents a rod pivoted to the meeting ends of the links *k k'* and extending through a guide-orifice in a yoke or frame, *n*, which is pivoted at *o* to a cross-bar, *p*, rigidly attached to the guide-rods *b b*. The rod *m* is adapted to slide lengthwise through the orifice in the yoke *n*. A spiral spring, *q*, interposed between the upper end of the yoke *n* and a head, *r*, attached to the rod *m*, normally holds the rod in the position shown in Fig. 2 when the pad-holder is depressed. When the pad-holder is raised, the rod *m* draws the meeting ends of the links *k k'* downwardly, and thereby causes

said links to raise the swinging end of the movable support *i* and the toe portion of the pad *h* until said toe portion comes to a firm bearing on the bottom of the last. Should the upward movement of the pad-holder continue after the pad has thus conformed to the bottom of the last, the yielding of the spring *q* permits the rod *m* to move outwardly in the yoke *n* without further moving the links *k k'*, so that when the bottom of the last has the minimum upward curvature at the toe the links *k k'* are not moved as far in the direction required to elevate the toe of the pad as when the last has a greater upward curvature. The pad is therefore automatically conformed to the shape of the bottom of the last.

In Fig. 4 we have shown the movable support *i* made as a wedge adapted to slide on the pad-holder under the toe portion of the pad *h* and connected with the rod *m* through a bell-crank lever, *s*, pivoted at its center to the pad-holder and at its ends to the wedge *i* and rod *m*. The upward movement of the pad causes the wedge to be moved inwardly and raise the toe portion of the pad, as will be readily seen. We do not limit ourselves, however, to the described means for operating the movable support, but may operate the same by hand or by any other suitable mechanism.

In case the pad-holder is not vertically movable, the devices for raising the movable support may be operated from the driving-shaft of the machine.

Between the toe and heel supporting standards *e f* is interposed a cam, *t*, affixed to a shaft, which is adapted to rotate in a bearing in the cross-head *c*, and has an operating-wheel, *u*, at its upper end. Springs *v v* press the standards *e f* against the cam *t*. The rotation of the cam causes the standards to move simultaneously toward or from each other, according to the direction of rotation, the cam being elliptical in shape, as shown in Fig. 2^a.

We claim—

1. In a sole-laying machine, the combination of a jack or shoe support, a sole-pressing pad, a supporting-bed, as *g*, for the main portion of said pad, and an independent movable support, as *i*, for a portion of said pad, where-

by said toe portion may be adjusted to vary the longitudinal contour of the pad, as set forth.

2. In a sole-laying machine, the combination of a sole-pressing pad, a supporting-bed, as *g*, for the main portion of said pad, an independently-movable support, as *i*, for a portion of said pad, and means, substantially as described, whereby the support *i* may be moved to vary the longitudinal contour of the pad, as set forth.

3. In a sole-laying machine, the combination of a sole-pressing pad, a vertically-movable supporting-bed for the main portion of said pad, an independently-movable support, as *i*, for a portion of said pad, and devices, substantially as described, operated by the upward movement of said bed, whereby the support *i* is moved to independently raise the toe portion of the pad, as set forth.

4. In a sole-laying machine, the combination of a sole-pressing pad, a vertically-movable supporting-bed for the main portion of said pad, an independently-movable support, as *i*, for a portion of said pad, the toggle-links *k k'*, connecting the bed and the support *i*, and a yielding connection, substantially as described, between the meeting ends of said links and a fixed support, whereby, when the pad and bed are raised, the support *i* is raised independently as far as the curvature of the toe portion of the last will permit, as set forth.

5. In a sole-laying machine, the combination of the jack-supporting cross-head having the guide, the toe and heel supporting standards adapted to slide on said guide, the cam interposed between said standards, and springs whereby the standards are pressed against the cam, as set forth.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 5th day of May, A. D. 1887.

AUGUSTUS SEAVER.
WILLIAM S. HAMM.

Witnesses:

A. D. HARRISON,
C. F. BROWN.