(No Model.) 2 Sheets—Sheet 1.

S. W. PAINE.

LASTING MACHINE.

No. 406,763. Patented July 9, 1889.

Fig. 1.

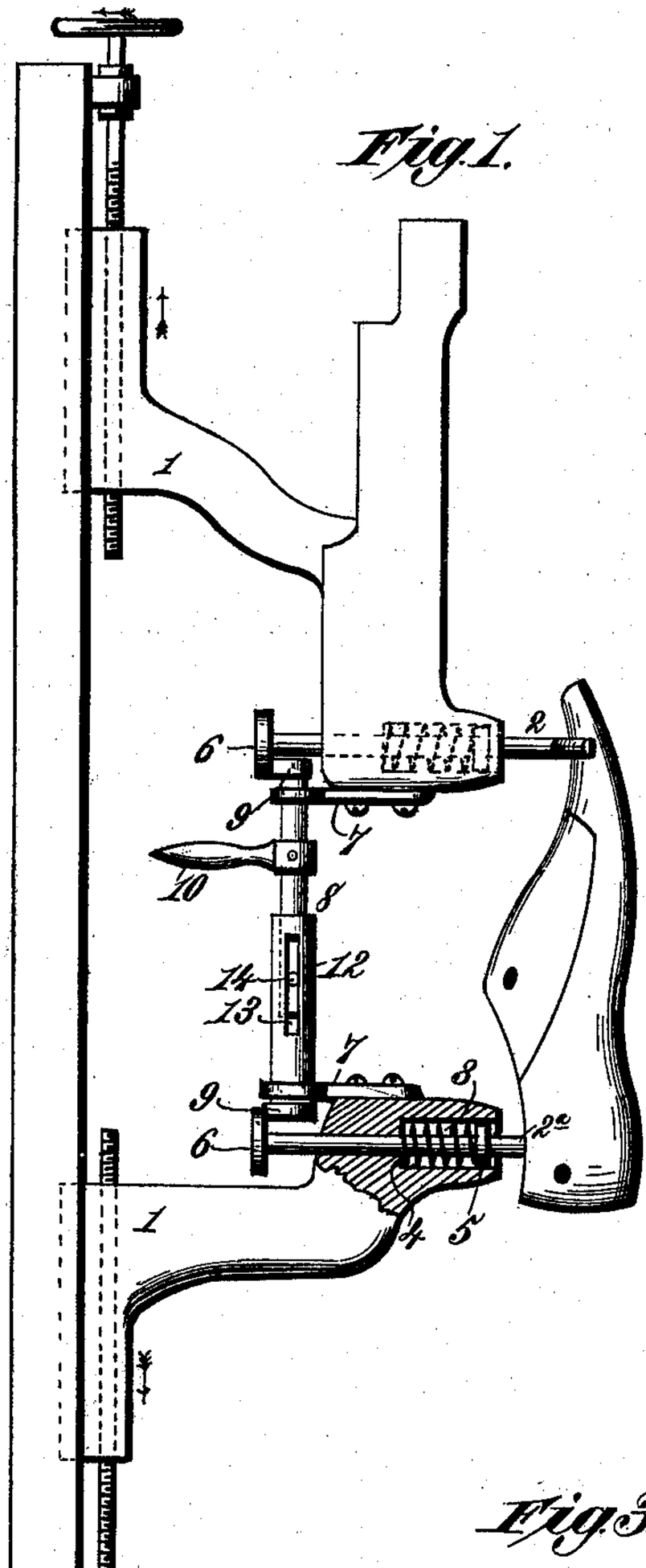

Fig. 2.

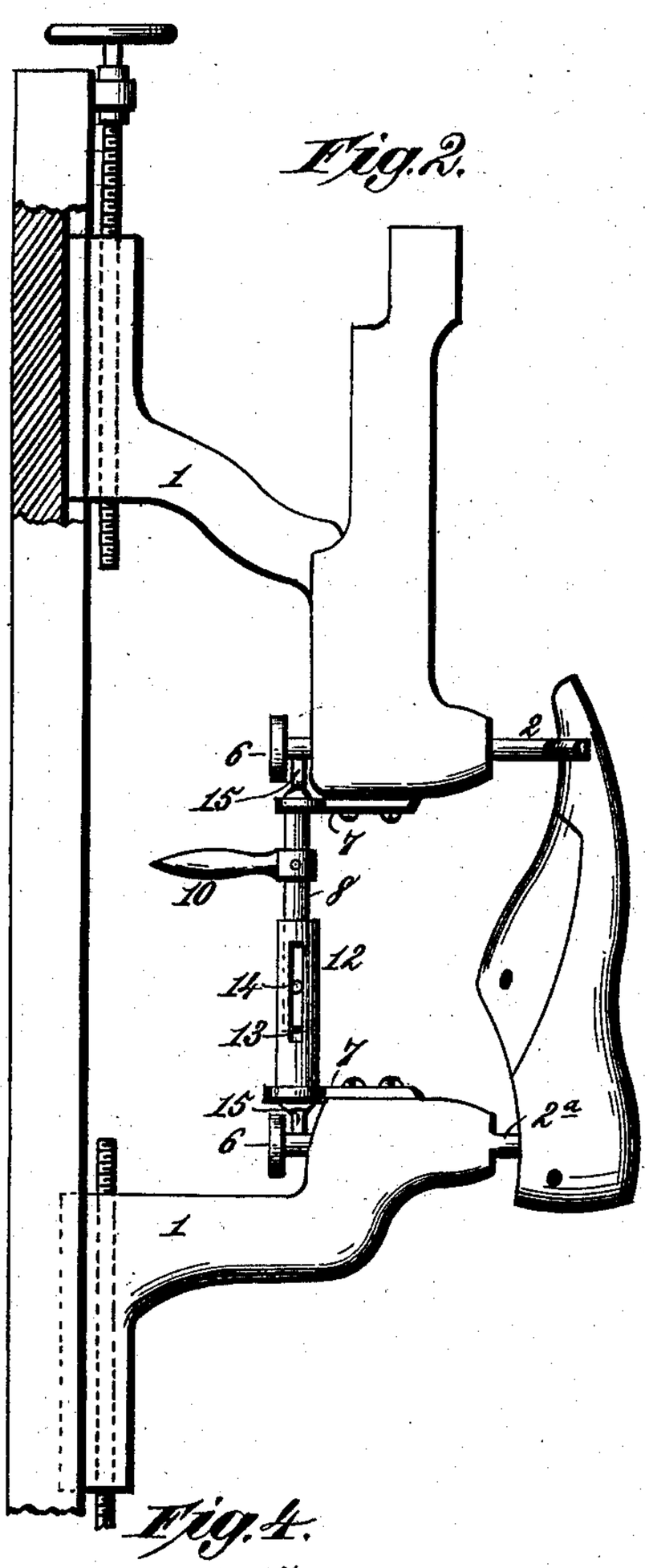

Fig. 3.

Fig. 4.

Witnesses.
Robert Everett.
Percy B. Hills.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

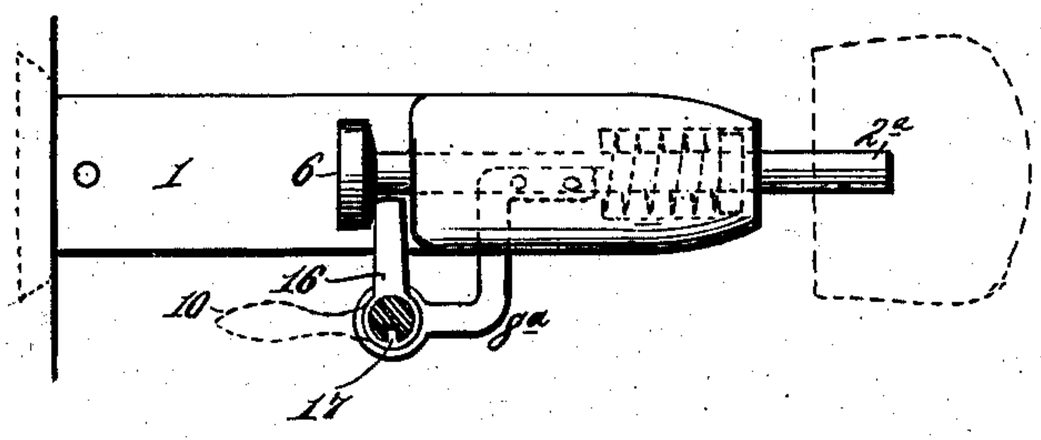


Fig. 6.

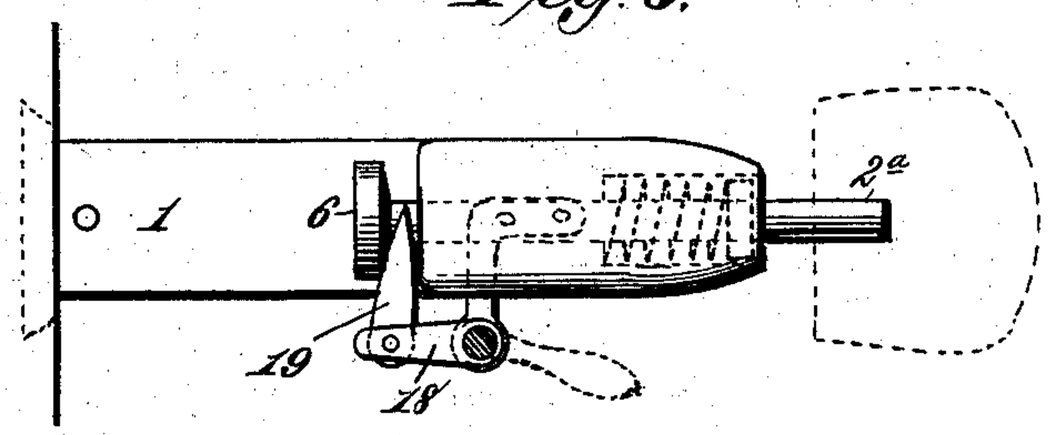
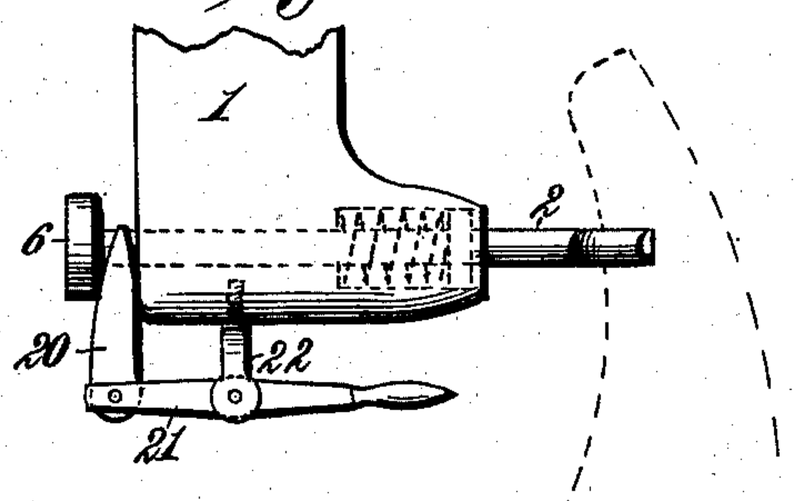


Fig. 7.



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UNITED STATES PATENT OFFICE.

SETH WHITE PAINE, OF ROCHESTER, NEW YORK, ASSIGNOR TO WILLIAM S. KING, OF MINNEAPOLIS, MINNESOTA.

LASTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 406,763, dated July 9, 1889.

Application filed September 25, 1888. Serial No. 286,349. (No model.)

To all whom it may concern:

Be it known that I, SETH WHITE PAINE, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented new and useful Improvements in Lasting-Machines, of which the following is a specification.

My invention relates to mechanism for lasting boots or shoes, the purpose thereof being to relieve the pressure of the upper between the last and the toe-rest, caused by what is known as the "downhold," so that the leather may be freely drawn over the toe and without friction between the last and the toe-rest. It is also my purpose to relieve the pressure of the heel, toe, and side lasting devices after having laid the edge of the upper over upon the insole, whereby in withdrawing the crimping devices from the upper the leather will not be drawn back with them.

The invention consists in the several novel features of construction and new combinations of parts hereinafter fully set forth, and then specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, showing my invention. Fig. 2 is a similar view showing a modified construction. Fig. 3 is a detail perspective of the cam-shaft. Fig. 4 is a similar view showing a slight modification of the cam-shaft. Figs. 5, 6, and 7 are views showing modifications in construction.

In the said drawings, the reference-numeral 1 designates the standards or supports for the toe and heel rests. Resting in suitable seats in these supports are the toe and heel rests 2 and 2^a, respectively, having capacity of longitudinal adjustment therein, and both being projected in one direction by spiral springs 3, coiled on said supports and resting at one end against seats 4 and at the other end against collars 5, rigidly mounted on said supports. Each supporting-bar 2 2^a has a flanged head or terminal collar 6, and the standards or supports are arranged to slide toward and from each other in guideways on the bed-piece. I have shown the standards as being movable for the purpose of adjusting them to and fro, as is ordinarily practiced under similar circumstances; but I do not confine myself to any particular means of adjustment, as various contrivances will be suggested to those skilled in the art.

Journaled in bracket-plates 7 on the standards 1 is a rock-shaft 8, having cams 9, which bear against the flanged heads or collars 6. An arm 10 on said shaft enables the operator to rotate the same, and a sleeve 12, having a slot 13, receiving a stud or pin 14 on the shaft, permits the adjustment of the standards 1, and at the same time secures the rotation of the shaft under all adjustments.

Instead of the cams 9, I may flatten the ends of the shaft 8, as shown at 15. By giving the cam-shaft a quarter-turn the wider diameter of the flattened ends will depress the toe and heel rests 2 and 2^a, acting in this respect precisely like the cams 9. In place of the construction thus described I may employ that shown in Figs. 6 and 7, wherein the rock-shaft 8 is formed of one solid piece of metal of suitable length, preferably supported by hangers or straps 8^a, screwed to the front of the standards. In place of the cams 9, I may use levers 16, the ends thereof resting on the terminal flange 6.

One of the levers 16 is made adjustable on the rock-shaft 8. For such purpose the latter is provided with a slot 17, which receives a spline or feather on the lever, whereby longitudinal adjustment of the latter is permitted, while at the same time it is compelled to rotate with the rock-shaft. In this construction the actuating lever or arm 10 is preferably mounted on the end of the rock-shaft. I may also mount arms 18 rigidly on the ends of the rock-shaft, said arms being provided at their free ends with wedge-shaped plates 19, pivotally connected to the arms and having their wedging-edges bearing against the lower surfaces of the standards and the flanges or heads 6. By turning the actuating-arm 10 the arms 18 swing through an arc of a circle, driving the wedges 19 between the heads 6 and the standards 2 and 2^a, and drawing the supports downward simultaneously. I may also use a separate wedge 20 upon each standard, operated by a lever 21, fulcrumed in a fork 22, the latter having a threaded shank which screws into the standard, Fig. 7.

By my invention the last-supports are operated simultaneously, thus preventing the binding of the parts, as would otherwise be the case.

What I claim is—

1. The combination, with suitable standards or supports, of two movable rests for respectively supporting the heel and toe of a last, and a rock-shaft acting upon both rests to simultaneously depress them, substantially as described.

2. The combination, with suitable standards or supports, of two lengthwise-movable rests for respectively supporting the heel and toe of a last, springs acting on the rests to move them outward, and a rock-shaft acting on both rests to simultaneously move them inward against the pressure of the springs, substantially as described.

3. The combination, with suitable standards or supports having brackets, of the lengthwise-movable toe and heel rests carried by the standards, springs forcing both rests upward, and a rock-shaft journaled in the brackets and acting at its extremities on both rests to simultaneously move them downward, substantially as described.

4. In a boot or shoe lasting mechanism, the combination, with suitable standards adjustable toward and from each other, of toe and heel supports seated in said standards, springs projecting said supports in one direction, a shaft having cams acting upon flanged heads or collars on said supports, and a sleeve embracing the shaft and having a slot receiving a pin thereon, substantially as described.

5. In a boot or shoe lasting mechanism, the combination, with suitable standards adjustable toward and from each other, of last-supports having springs projecting them longitudinally, and a shaft having cams which retract said last-supports, one of the cams being keyed to and adjustable on the shaft to compensate for the adjustment of the standards, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

SETH WHITE PAINE.

Witnesses:
JAMES A. RUTHERFORD,
JOS. L. COOMBS.