

(No Model.)

F. CHASE.
LASTING MACHINE.

No. 340,860.

Patented Apr. 27, 1886.

Fig. 1.

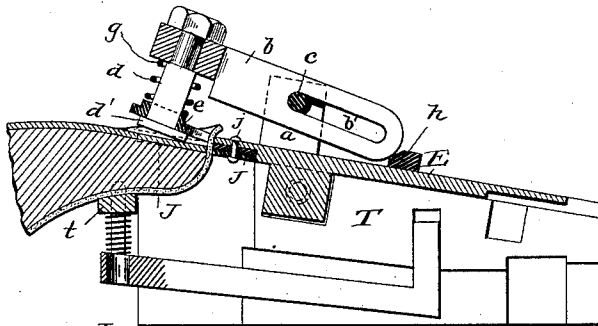


Fig. 2.

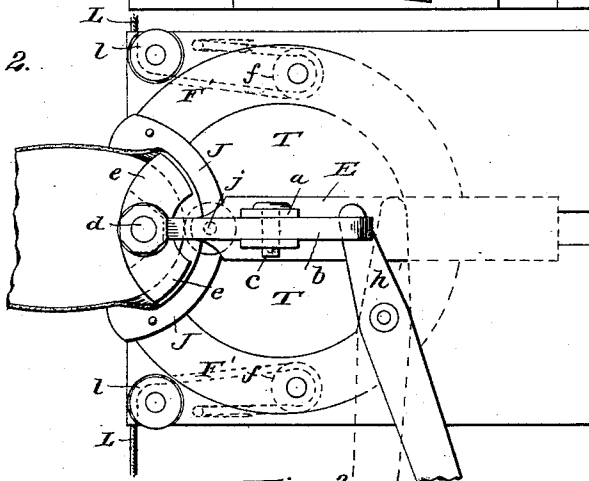
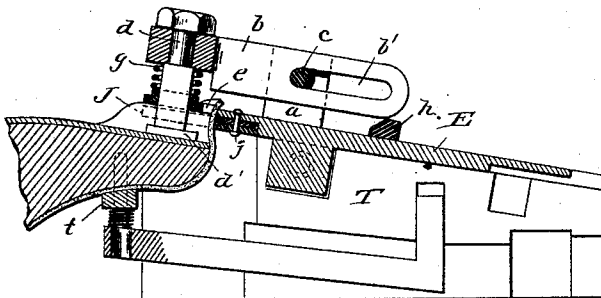


Fig. 3.



Witnesses:

W. A. Low
E. Dick

Inventor:

Frank Chase
by Marcus Bailey
his attorney

UNITED STATES PATENT OFFICE.

FRANK CHASE, OF BOSTON, MASSACHUSETTS.

LASTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 340,860, dated April 27, 1886.

Application filed March 5, 1886. Serial No. 194,107. (No model.)

To all whom it may concern:

Be it known that I, FRANK CHASE, of Boston, in the State of Massachusetts, have invented a certain new and useful Improvement in Lasting-Machines, of which the following is a specification.

This invention has relation to that portion of a lasting-machine by which the toe of the upper is lasted, and has reference more particular to lasting-machines in which the edge of the upper is stretched and wiped down upon the last by means of wipers.

The invention is characterized by the combination, with the toe-wipers, of two devices, which, for convenience' sake, will be termed "hold-down" and "retarder," respectively. The hold-down bears upon the bottom of the last at or near the toe, depressing the same far enough below the plane of movement of the wipers to prevent frictional contact between wipers and the bottom of the last which would interfere with the drawing of the upper up over and down upon the last. In this way the toe can be drawn up and lasted smoothly and evenly. At the same time the hold-down has the further function of keeping the insole in place and preventing it from wrinkling, which is a matter to be considered with the very flexible or pliable insoles which are now coming into extensive use. The retarder is a device or instrumentality whereby, in connection with the wipers, the leather at the toe can be taken hold of either by friction or otherwise, so as to cause it to be drawn or pulled up around the toe when the wipers are operated. This device can be nippers, such, for example, as the nippers I² of my Letters Patent No. 337,925, of March 16, 1886. I prefer, however, to make use of a plate, substantially such as hereinafter described, between which and the wipers the edge of the upper is pinched. The hold-down has a vertical movement independently of the wipers and retarder, so that after the latter two have taken hold of the leather the hold-down can be depressed, thus forcing down the last, and consequently to some extent drawing up the upper at the toe over the last. Ordinarily I do not contemplate that the hold-down shall have greater range of vertical movement than is sufficient to depress the bottom of the last out of undue frictional contact with the toe-

wipers, or rather with that portion of the upper between the toe-wipers and the bottom or edge of the last, but by increasing the range of movement the result will be to draw and stretch the upper upon the last very completely, after which by a forward movement of the wipers or by other suitable means the drawn-up edge can be folded and laid down upon the bottom of the last or the insole thereon.

The nature of my improvement and the manner in which the same is or may be carried into effect can best be explained and understood by reference to the accompanying drawings, in which—

Figure 1 is a side elevation, partly in section; and Fig. 2 is a plan of so much of a lasting mechanism as needed to illustrate my improvement. Fig. 3 is a view similar to Fig. 1, with the parts in the position which they assume after the hold-down has been moved to depress the toe of the last.

The particular mechanism in connection with which I have chosen to show my improvement in the present instance is the toe-lasting portion of the lasting-machine shown and described in my Letters Patent No. 337,925, of March 16, 1886. It is not necessary to represent the whole machine, for it is fully illustrated in the Letters Patent referred to.

T T are the toe-clamps. E is the central plate carried by the toe-clamps. J are the toe-wipers, pivoted to said plate at *j*, and having a pin-and-slot connection with the actuating-plates F' F', adapted to slide in semicircular ways in the clamps under the action of the cords L passing around pulleys *l f*. The vertically-yielding toe-rest is shown at *t*. All of these parts are constructed, arranged, and adapted to operate similarly to like lettered parts in the Letters Patent above referred to, and they therefore require no further explanation here.

I proceed, therefore, to a description of the parts in which my present improvement is embodied.

Upon the central plate, E, is fixed a bracket, *a*, between ears, on which is hung an arm, *b*, by means of a pin, *c*, which passes through a longitudinal slot, *b'*, in the arm. To the outer end of the arm (which is to overhang the toe

of the last) is fixed a downwardly-extending stem, *d*, the lower end, *d'*, of which constitutes the hold-down, hereinbefore referred to. The part *d'* may be a plate of any suitable conformation, but not so large as to interfere with or meet the wipers *J* during their action. Upon a squared portion of the stem *d* is the plate *e*, which is the device hereinbefore termed the "retarder." It can slide up and down upon the stem, and is pressed downwardly by a spiral spring, *g*, interposed between the arm *b* and the retarder *e*, and encircling the stem *d*. The preferred shape of this plate *e* is shown clearly in Fig. 2. It is cut away at about the middle of its front edge, so as to not interfere with that portion of the upper which is usually drawn over and tacked down upon the center of the toe of the last by hand prior to commencing the lasting operation proper.

The arm *b*, while capable of longitudinal movement, also can turn upon the pin *c* as a pivot; and at the rear is a pivoted lever, *h*, having a wedge or tapering end, which, when forced under the rear end of *b* will depress the front end, and consequently the hold-down *d'*.

This being the organization of parts, the mode of operation is as follows: The last is placed in the machine, the adjustment being such that when thus placed, and before jacked or locked in place, the sole of the last, or the insole thereon, will be about on a level with the toe-wipers, as seen in Fig. 1. The arm *b* is then raised and drawn forward by hand, and then is lowered until the hold-down meets the sole of the last, after which the device is moved toward the wipers, the effect being that the retarder pushes the projecting edge of the upper at or around the toe outwardly down upon the wipers, the leather at this point thus being held or pinched between the retarder and the wipers, as seen in Fig. 1. The next step is to depress the last, to which end the arm *b* is, by the lever *h*, tilted in a direction to cause the hold-down to press and force down the toe of the last. The retarder is prevented from following this movement, because it overlaps and is upheld by the wipers. The effect of the depressing of the last while the leather is thus pinched and held between the wipers and the retarder is to partially stretch and draw the upper at the toe upon the last. The parts in this position are

represented in Fig. 3. The bottom of the last, or the insole thereon, is at such distance below the plane of movement of the wipers that the latter, when advancing, are out of undue frictional contact with the bottom of the last or the leather thereon. In this way all danger of the cramping or binding of the leather on the last or between the last and wipers is avoided, and the leather is drawn up over the last most evenly, smoothly, and thoroughly.

The last is locked in the position shown in Fig. 3, and the upper is then lasted in the usual way, the wipers *J* at the proper time advancing and performing their work, as customary.

The frictional hold of the leather between the retarder and the wipers is that which I prefer. The retarder, indeed, serves the purpose and takes the place of the retarding-nippers *I*² in my Letters Patent before recited; and in lieu of the retarder the wipers may be provided with nippers or any other devices by which they are enabled to take a hold on the leather sufficiently for lasting purposes, and I desire to be understood as embracing the foregoing in the claims.

I do not therefore restrict myself to the details hereinbefore described in illustration of my improvement; but,

Having described my invention and the best way now known to me of carrying the same into effect, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the toe-wipers, the retarder, and the hold-down vertically movable independently of said retarder, substantially as and for the purposes hereinbefore set forth.

2. The combination of the toe-wipers, the hold-down, the tilting and longitudinally-movable frame carrying the same, the retarder mounted and capable of sliding upon said frame to and from the hold-down, and pressed toward the same by a spring, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 25th day of February, 1886.

FRANK CHASE.

Witnesses:

EWELL A. DICK,
MARVIN A. CUSTIS.