2 Sheets—Sheet 1.

C. W. GLIDDEN.

Lasting-Machines.

No. 217,865. Patented July 29, 1879.

Fig: 1.

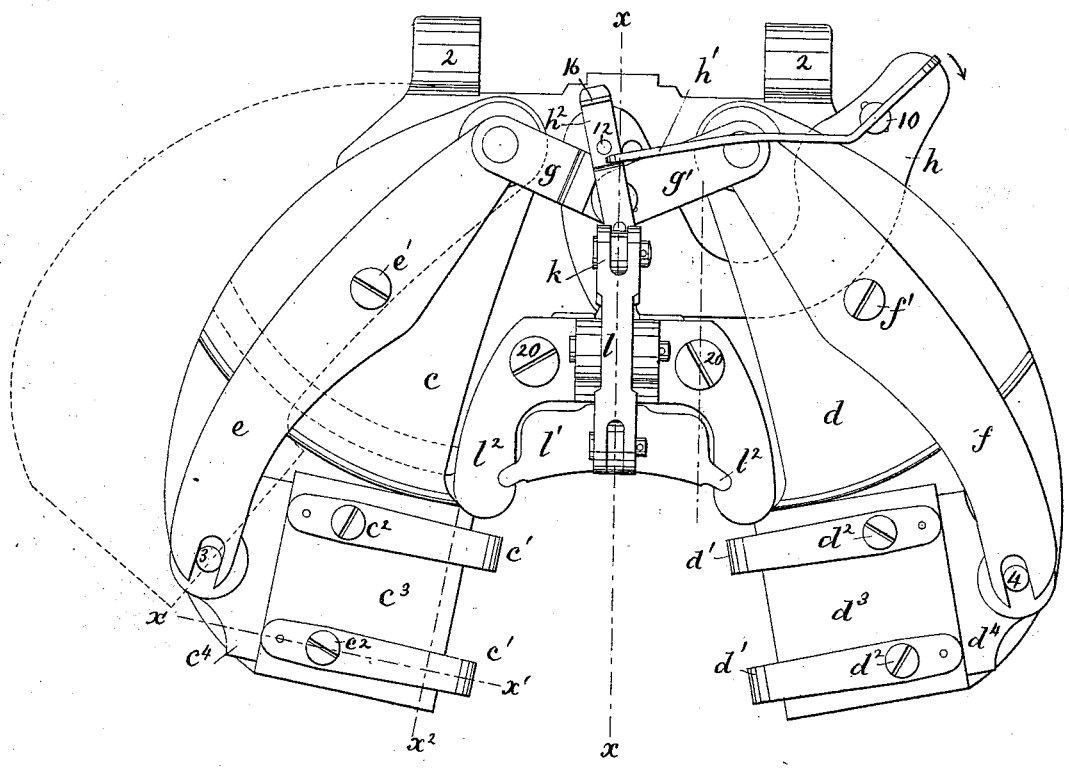


Fig: 3

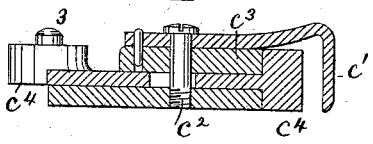


Fig: 4.

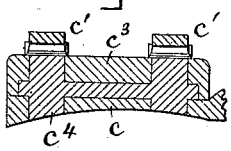
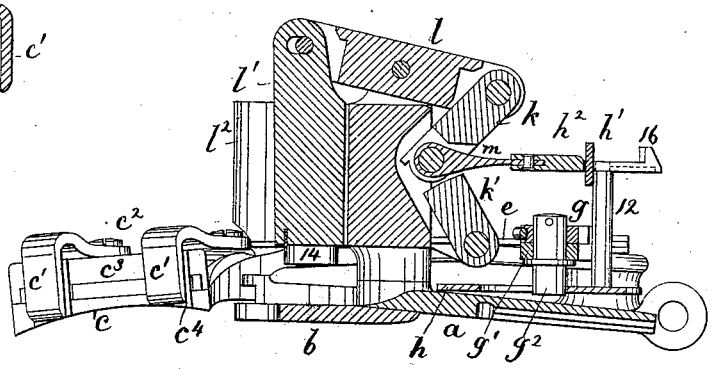


Fig: 2.



Witnesses.

N. E. Whitney.

Jos. P. Livermore.

Inventor.

Charles W. Glidden,

by Crosby & Gregory Attys

C. W. GLIDDEN.

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Fig. 5.

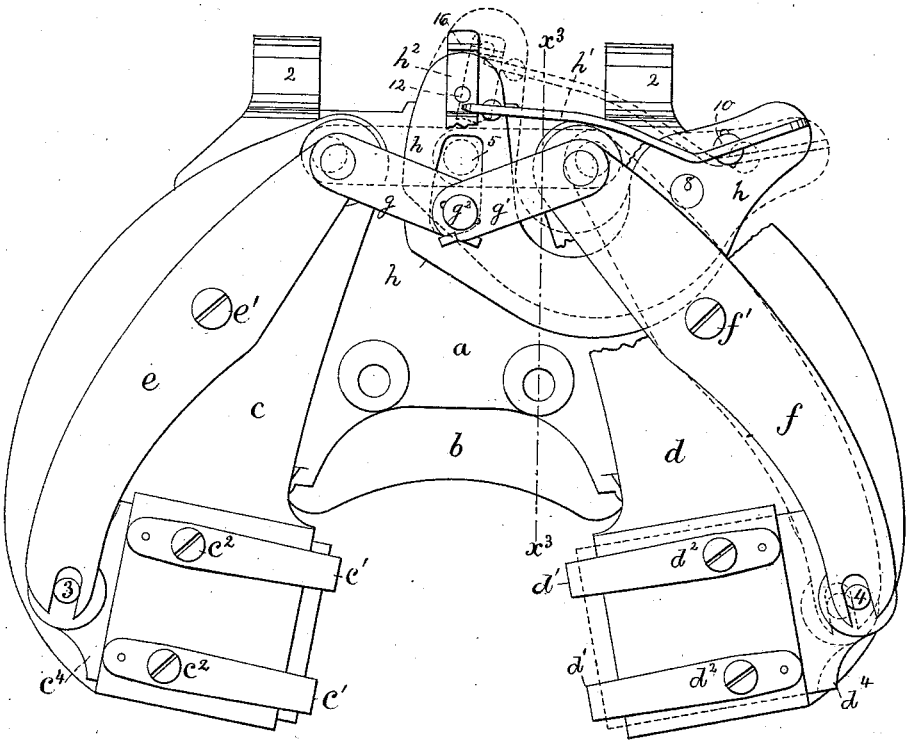


Fig. 8.

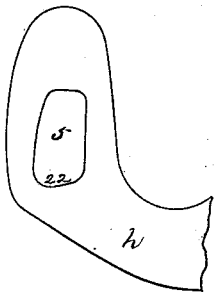
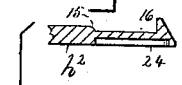


Fig. 7.



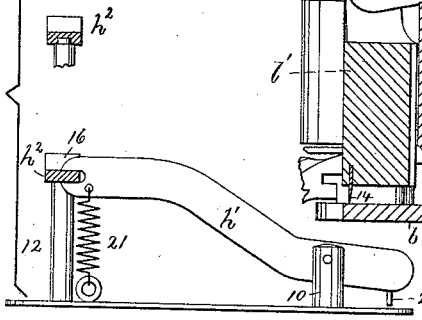
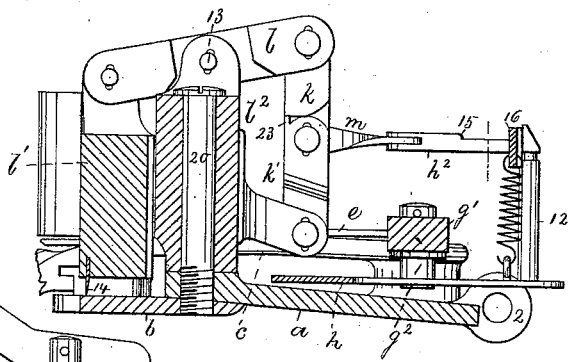


Fig. 6.



Witnesses.

N. E. Whitney.

J. T. Cronin

Inventor.

Charles W. Glidden.

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UNITED STATES PATENT OFFICE.

CHARLES W. GLIDDEN, OF LYNN, MASSACHUSETTS.

IMPROVEMENT IN LASTING-MACHINES.

Specification forming part of Letters Patent No. **217,865**, dated July 29, 1879; application filed June 16, 1879.

To all whom it may concern:

Be it known that I, CHAS. W. GLIDDEN, of Lynn, county of Essex, and State of Massachusetts, have invented an Improvement in Lasting-Machines, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to improvements in lasting-machines, and has for its object such a construction of parts as will enable the upper-holding devices or jaws to be automatically but independently closed, so as to permit the said holding-jaws at each edge of the upper to adapt themselves to the material of more or less thickness, this being essential because if all the jaws were moved together, and the closing of one was stopped by a thicker part of the upper, the other jaws opposite the thinner parts of the upper would not hold the upper as firmly, and consequently the upper as it was being strained and fitted to the last would slip prematurely from between the jaws holding it with least pressure, and fail to last the upper correctly.

This present invention is an improvement on United States Letters Patent No. 211,147, granted to me January 9, 1879, to which reference may be had.

Figure 1 represents in top view a sufficient portion of a lasting-machine to show my present improvements, both sets of upper-holding devices being opened; Fig. 2, a section on the line $x\ x$; Fig. 3, a section on the line $x^1\ x^1$, and Fig. 4 a section on the line x^2, Fig. 1. Fig. 5 is a top view, showing in full lines the upper-holders at the left in closed position, and those at the right open, the dotted lines in the same figure showing the holders at the right as closed, the toe-notching mechanism being omitted. Fig. 6 is a partial section on the line x^3, Fig. 5, the toe-notching cutter being added and shown as thrown down; and Figs. 7 and 8 represent details to be referred to.

The base *a*, provided with ears 2, by which to hang it, the cutting and holding bed *b*, and the wing-plates *c d*, pivoted at their rear ends to the base *a*, are and may be as in my patent referred to. In this instance the upper-holding devices or jaws are shown as composed of two bent hooks or fingers, $c^1\ d^1$, preferably serrated at their inner faces, and connected, by screws $c^2\ d^2$, with guides $c^3\ d^3$, attached, as shown, by the same screws to the wing-plates *c d*, and of sliding members $c^4\ d^4$, fitted to slide within the said guides $c^3\ d^3$, portions at the forward ends of the said members being adapted to co-operate with the bent or active ends of the fingers $c^1\ d^1$.

The sliding members have pins or projections 3 4, which are engaged by the levers *e f*, pivoted at $e'\ f'$, the said two levers being connected at their other ends by a toggle-jointed link, $g\ g^1$, having a long connecting depending pivot, g^2, which enters an irregular slot, 5, in a jaw-closing plate, *h*, pivoted at 8. This plate *h* has a fulcrum-post, 10, for a lifter, h^1, which is slotted at its forward end to embrace the connecting device h^2, that joins the post 12 of the lever *k*, with, and so as to operate, the toggle $k\ k'$, that vibrates the lever *l*, pivoted at 13, the said lever actuating the cutting-bar l^1, provided at its lower end with a toe-notching cutting-blade, 14, adapted to notch or cut out the toe of the upper, as described in the said patent. This connecting device h^2 has two shoulders, 15 16, between which the forked end of h^1 slides, and it is pivoted to a link, *m*, attached to the toggle-lever $k\ k'$.

The cutter-bar l^1 slides in a head, l^2, attached to the base *a* by screws 20 20, the same screws being shown as attaching the cutter-bed *b* to the said base.

The outer end of the lifter h^1 is held down by a spring, 21, and at its opposite end it has a stop, 22, to regulate the distance that the outer end of the lifter may be raised.

When about to last a shoe the parts may be considered to be in the position shown in Fig. 1, full lines, the cutter 14 being lifted. In this condition the edges of the upper are placed back of the fingers $c^1\ d^1$ and on the bed *b* under the cutters, and the operator will press the plate *h* in the direction of the arrow.

The first part of the movement of this plate by the pin 12 and connecting device h^2, attached to it and the toggle $k\ k'$ will throw down the cutter-bar and cutter to notch out the toe of the upper, and also preferably clamp the said toe, as in the patent referred to, the slotted part 5 of the said plate *h* not then affecting the pin g^2; but as the cutter is brought down the plate *h* at the end of the slot 5 (the said

slot being wider than the diameter of the pin g^2, and somewhat inclined, as shown at 22, Fig. 8) will strike the said pin and partially straighten the toggle $g\,g^1$, sufficiently so as to move the lever e and sliding member c^4 of the upper-holding devices against the fingers c^1.

The backward movement of the toggle $g\,g^1$ is checked by the stop 23 on the toggle member k', it meeting a shoulder of the part k, the parts then being as in Figs. 5 and 6.

In order to close the upper-holding devices d^1 d^4 upon the edges of the upper at the opposite side thereof, the short end of the lifter is depressed far enough to lift its long end and raise the connecting device from the part 12, when further movement of the jaw-closing plate h in the same direction will cause it to act upon and move the pin g^2 and straighten the toggle, such movement turning the lever f and throwing forward the movable member d^4 to grasp the upper between it and the fingers d^1. In this condition both edges of the upper are independently held closely and firmly by the upper-holding devices, although they may be of different thickness, and the last and upper may be crowded and strained in close contact, as in my said patent, or in my other patent, No. 211,506, dated January 21, 1879.

The connecting device h^2 is prevented from leaving the post 12 by means of the guiding-recesses 24 at its lower side, owing to the fact that it is never lifted entirely above the top of the said post 12, and the lifter cannot leave the connecting device because of the shoulders 15 16.

Movement of the plate h in the opposite direction springs the toggle $g\,g^1$, and the post 12 enters the hole in h^2 and again springs toggle k k, leaving the parts as in Fig. 1, full lines. This independent closing of the upper-holding devices enables the operator to attend to each side of the upper separately and see that it is properly held before commencing to draw the upper to the last.

When it is desired to release the upper, the inclined rear end of the connecting device h^2 will be struck by some other part of the machine, substantially such as described in my said Patent No. 211,506, preferably by an adjustable pendant from the cross-head of the said machine, and the connecting device so struck will be moved forward, will in its movement catch upon the post 12, and will so actuate the lever and other parts as to simultaneously release the upper-holding devices at both sides of the shoe, which is essential for the successful operation of the machine to prevent drawing the upper more at one than at its other side.

I claim—

1. In a lasting-machine, the upper-holding devices or jaws, located at opposite sides of the toe portion of the machine, and connecting mechanism adapted to automatically close the upper-holding devices at one side of the toe just before closing those at the other side of the toe, substantially as and for the purpose described.

2. In a lasting-machine, two levers to move the upper-holding devices, a toggle-joint or double link to connect the levers, and a jaw-closing plate to first partially, and then fully, operate the said toggle-joint or link, substantially as described.

3. The jaw-closing lever h and post and lifter and connecting device to release the said lever, substantially as described.

4. In a lasting-machine, the upper-holding devices at each side the toe portion of the machine, a cutter to notch the toe of the upper, levers to move the upper-holding devices, a toggle-lever attached to the cutter-bar lever, and a jaw-closing plate and intermediate mechanism to operate the cutter-bar and both sets of upper-holding devices from the same lever, substantially as described.

5. In a lasting-machine, the independent upper-holding devices and their actuating levers, connected together as described, combined with a jaw-moving lever and mechanism to move it to release both sets of holding devices at the same time, substantially as described.

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

CHARLES W. GLIDDEN.

Witnesses:
G. W. GREGORY,
N. E. WHITNEY.