

(No Model.)

H. M. GOODHUE.

LASTING MACHINE.

No. 393,066.

Patented Nov. 20, 1888.

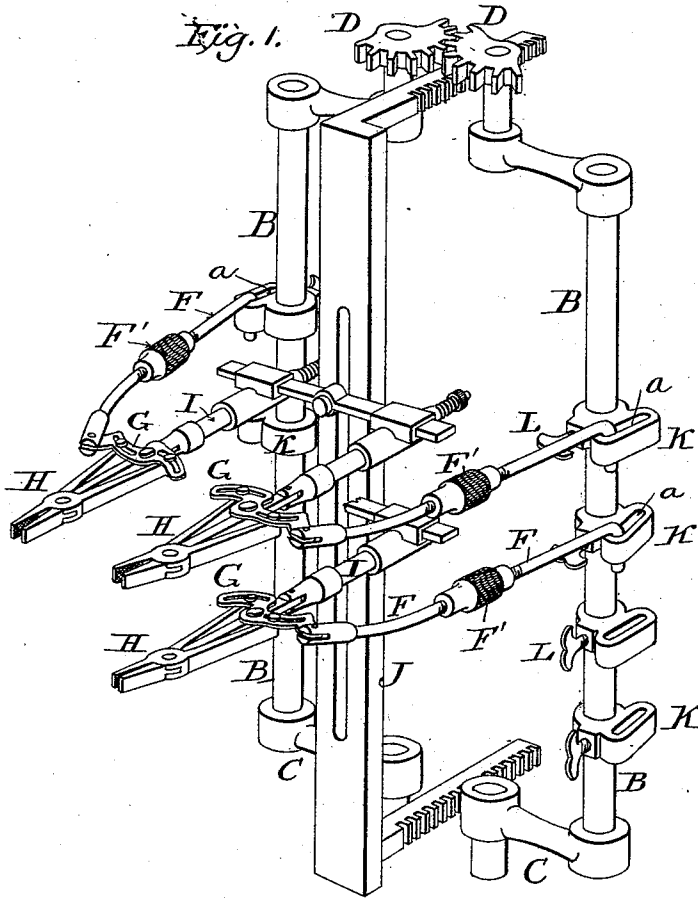


Fig. 3.

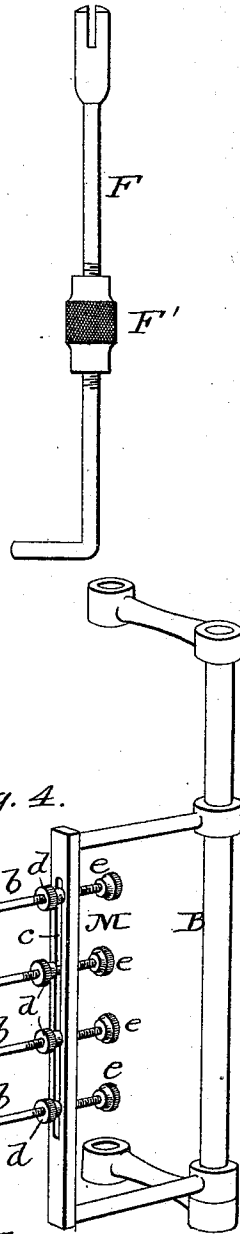


Fig. 2.

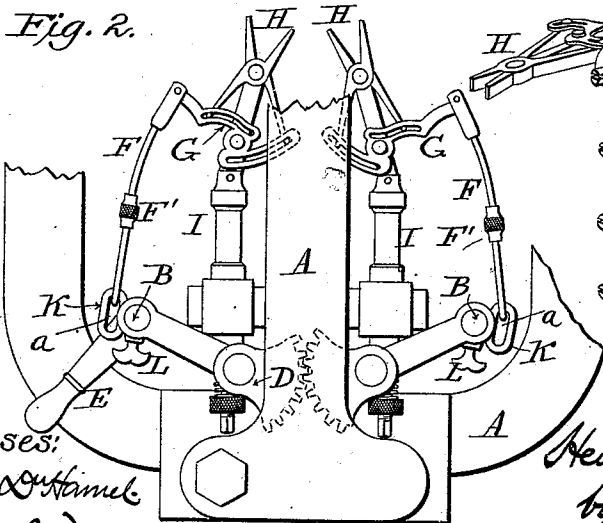
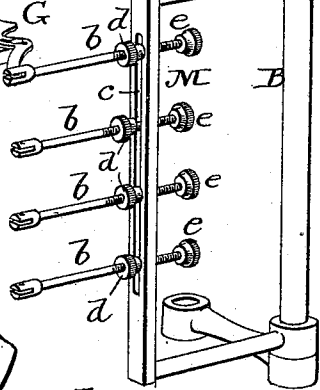


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY M. GOODHUE, OF ROCHESTER, NEW YORK, ASSIGNOR TO WILLIAM S. KING, OF MINNEAPOLIS, MINNESOTA.

LASTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 393,066, dated November 20, 1888.

Application filed August 16, 1888. Serial No. 282,914. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. GOODHUE, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Lasting-Machines, of which the following is a specification.

My invention relates to lasting-machines, and particularly to the mechanism for actuating or controlling the pinchers by which the upper is stretched over the last.

The invention consists, primarily, in a connection between the pinchers and the lever or bar which actuates them, having a degree of play or lost motion, which permits one pair of pinchers to remain inactive while another pair is operating, so that they may act successively instead of simultaneously.

It further consists in means for setting or adjusting the connecting or actuating devices, whereby the time or order of operation of the various pinchers may be varied and determined.

The invention is susceptible of embodiment in various forms, equivalents of each other, as will readily be seen by the practical mechanic.

In the drawings, Figure 1 is a perspective view of so much of a lasting-machine as is required to show the present invention; Fig. 2, a top plan view of the same; Fig. 3, an enlarged view of the connections; Fig. 4, a perspective view, illustrating a modification.

The invention herein set forth is designed more particularly for application to the lasting-machine for which Letters Patent were granted to Paine, Gray, and Pettee, bearing date the 7th day of August, 1888, and numbered 387,366, though susceptible of use in a variety of lasting-machines.

In the practical use of lasting-machines it is often found desirable to stretch the upper in one direction or on one line before another, or to have the stretching devices act successively. With the constructions heretofore adopted, so far as I am aware, this has not been practicable.

My invention enables me to attain this end with ease and certainty and to vary the time and order of action of the various pinchers, as desired.

Referring first to Figs. 1, 2, and 3, the preferred form of the device will be explained.

A indicates a portion of the frame-work of the lasting-machine, and B B two vertical rods or bars carried by crank-arms C C, said rods being furnished with intermeshing toothed segments D D, which by their engagement cause the two rods to move toward or from each other simultaneously and equally, motion being given by a hand-lever, E, projecting from one of the crank-arms C C, as heretofore.

The upright rods B B are connected by horizontal rods F to slotted levers G, by which the jaws of the pinchers H are opened and closed, the pinchers themselves being carried by rods or stems I, supported by and movable back and forth with a reciprocating sash or frame, J.

Heretofore the rods F have been so constructed and attached to or connected with the vertical rods B B that neither could move independently of the other; but under the present construction I provide the rods B B each with a series of encircling collars, K, capable of adjustment vertically upon and horizontally about the rods, one collar for each pair of pinchers.

Each collar is furnished with a set-screw, L, or equivalent fastening device, by which it may be firmly locked to the rod in any position desired, and is formed with a lateral enlargement having a slot or elongated opening, a. These openings are designed to receive the ends of the connecting or operating rods F, each of which rods has one end jointed or pivotally attached to a pincher-operating lever, G, and the other end bent at right angles to the length of the rod and passed through a slot, a, of one of the collars.

If the several rods F be of uniform length, the pinchers all set the same distance from rods B B, and the collars K set in the same angular position relatively to said rods, it is apparent that the pinchers will all be affected simultaneously and equally by the swinging of the rods B B. If, however, one of the rods be made longer than another, or if it be left of the same length and its collar K be set differently from the others, the pinchers controlled by such rods may be caused to open in ad-

vance of others and to close after the others, or vice versa, as the collar is turned in one or the other direction. Thus in Fig. 1 the uppermost rod, owing to the fact that its hooked end is nearer the forward end of its slot than is the hooked end of the rod immediately below it, will open its pinchers in advance of those controlled by said lower rod, and of course will close the upper after the lower pinchers. The same effect can be produced with the aid of the slotted collars by varying the length of the rods, for which purpose they are made in two parts and connected by an elongated nut or burr, F', as shown, the collars being set alike when the rods are varied in length. This latter mode of adjustment is preferable to turning the collars, because it avoids throwing the rods out of line or varying their lines of draft.

It is obvious that any sliding connection will serve the purpose of this invention, if means be provided for varying the times or order of action of the several rods.

A simple equivalent for the construction above set forth is illustrated in Fig. 4, in which the rods F are represented as formed with threaded stems *b*, which extend through the slotted or perforated front bar, *c*, of a yoke or frame, M, carried by the rod B, (one for each,) said stems being furnished in front and in rear of the bars *c* with nuts *d* and *e*, the adjustment of which will determine the time of the opening and closing of the pinchers controlled by such rod F. This construction also admits of varying the extent of play or lost motion of each rod, or of preventing any play at all, so that, if desired, a given rod may be made not only to open but also to close its pinchers in advance of others, instead of opening them before and closing after others. This is not ordinarily important, but is so in some cases, and is accordingly claimed as a part of my invention. The sliding connection may be made with the levers G, if preferred.

It is apparent that the invention is applicable to various forms of machines in which the pinchers are actuated by a common lever or from a common source, and that it is not restricted to the particular form of machine herein indicated, nor to use in connection with the two coacting rods or bars B. The sliding connection may be employed wherever two or more pinchers are actuated by a common device, so that the relative times of action may be varied.

I am aware that it has been proposed to encircle the stems of the pincher-holders with spiral springs, by means of which the holders may adjust themselves according to the thickness of the leather, and which return the holders to their normal positions as soon as the operation of all the pinchers becomes uniform. Such an arrangement as this I disclaim.

In my invention I provide lost motion or a loose connection between the connecting-rods and the actuating-bars, whereby the pinchers are adapted to be actuated successively.

Having thus described my invention, what I claim is—

1. In a lasting-machine, the combination, with two or more pairs of pinchers, each provided with closing devices, of a rod or bar for actuating said closing devices, and intermediate connecting-rods extending from the closing devices to the actuating rod or bar, said connections having play or lost motion to permit them to operate successively, all substantially as shown.

2. In combination with independent pairs of lasting-pinchers and with an actuating rod or bar common to all, intermediate connecting-rods having a loose connection with the actuating rod or bar, all substantially as shown.

3. In a lasting-machine, the combination, with independent lasting-pinchers and with an actuating rod or bar common to all, of intermediate extensible connecting-rods having a loose connection with one of said parts, all substantially as shown.

4. In combination with two or more pairs of pinchers and with their opening and closing devices, a rod for actuating said opening and closing devices, and a loose connection between said devices and the actuating-rod, consisting of slotted collars carried by the actuating-rod and connecting-rods extending from the opening and closing devices of the pinchers to the collars, and each having one end extended into or through one of the slots thereof.

5. In combination with pinchers H and their levers G, actuating-rod B, collars carried by said rod and having slots *a*, and connecting-rods F, attached at one end to the levers G, and having their other ends seated in the slots *a*.

6. In combination with pinchers H, their opening and closing devices, and rods F, actuating-rod B, provided with vertically-adjustable collars K, having slots *a* to receive the ends of rods F.

7. The combination, with a series of pinchers having opening and closing devices, of an actuating rod or bar common to all the pinchers, slotted collars carried by said rod or bar and adjustable about the same, fastenings for holding said collars at any required position upon the rod, and connecting-rods having one end attached to the opening and closing devices of the pinchers and the other end seated in the slots of the collars.

In witness whereof I hereunto set my hand in the presence of two witnesses.

HENRY M. GOODHUE.

Witnesses:

E. S. COMBS,

W. A. WILSON.