

(No Model.)

2 Sheets—Sheet 1

E. S. COMBS.
LASTING MACHINE.

No. 511,835.

Patented Jan. 2, 1894.

Fig. 1.

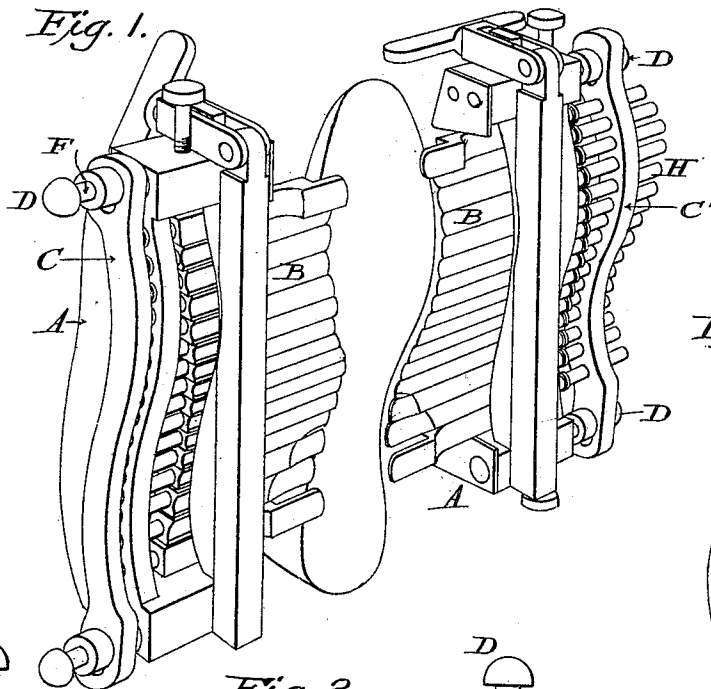


Fig. 4.

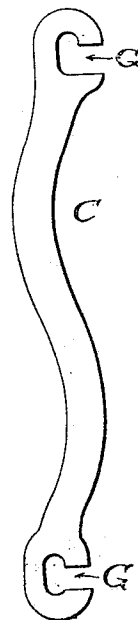


Fig. 2.

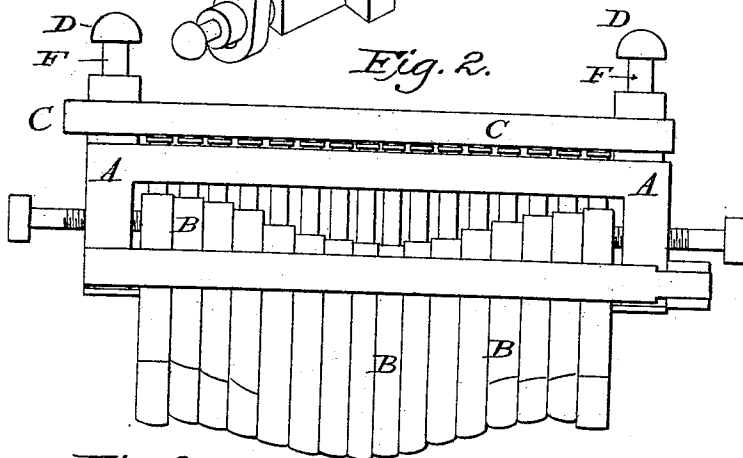
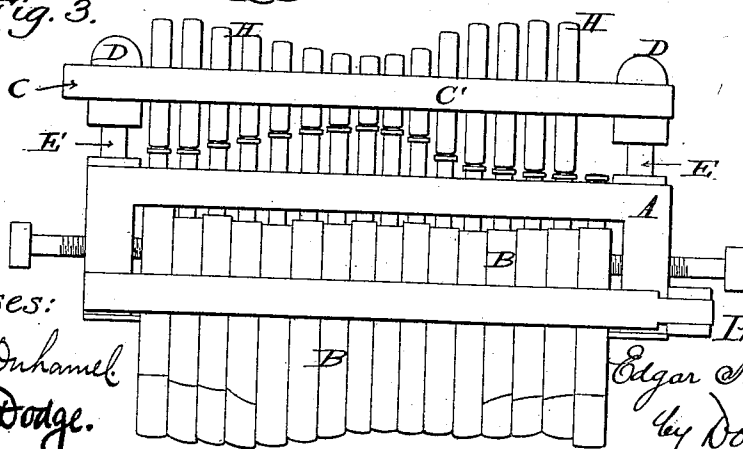


Fig. 3.



Witnesses:

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Horace A. Dodge.

Inventor.

Edgar S. Combs,
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Fig. 5.

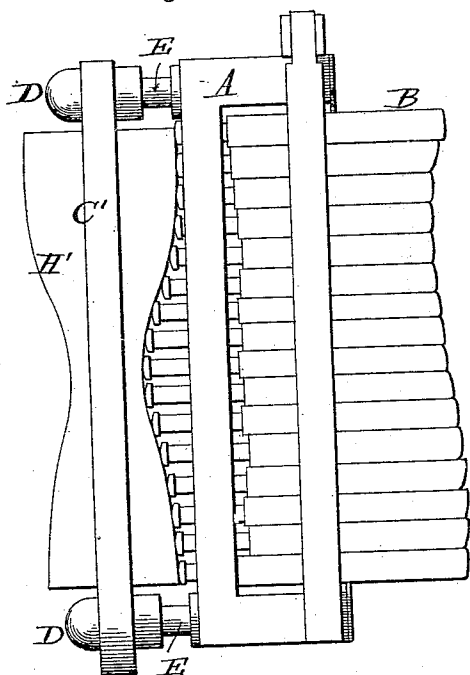
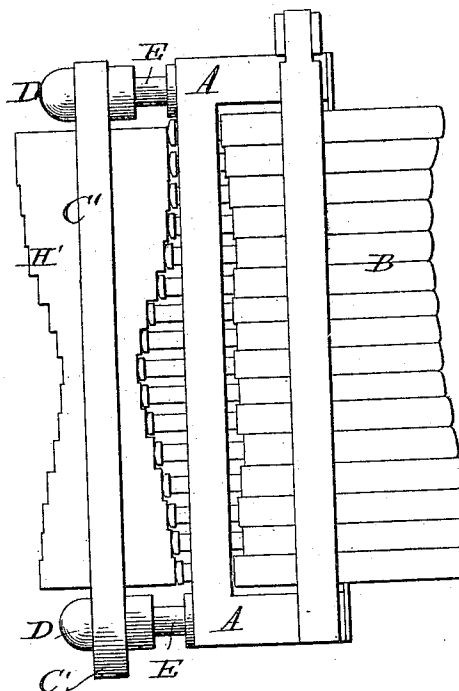


Fig. 6.



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UNITED STATES PATENT OFFICE.

EDGAR S. COMBS, OF ROCHESTER, NEW YORK, ASSIGNOR TO THE ROCHESTER
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LASTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 511,835, dated January 2, 1894.

Application filed December 9, 1890. Serial No. 374,083. (No model.)

To all whom it may concern:

Be it known that I, EDGAR S. COMBS, a citizen of the United States, residing at 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 has reference more particularly to a novel construction of the side lasting jaws which lay the projecting edges of the upper down upon the bottom of the last or the insole thereon.

The present invention is designed as an improvement upon that for which I secured Letters Patent of the United States December 23, 1890, No. 443,429.

In the drawings,—Figure 1 is a perspective view of a pair of my improved lasting jaws as they appear in use; Fig. 2, a front face view of one of the jaws showing the fingers in position for lasting the inside or crooked side of the shoe; Fig. 3, a similar view, but with the fingers arranged in such position as to adapt the jaw to the lasting of the straight side or outside of the shoe. Fig. 4 is a side or face view of one of the end formers; and Figs. 5 and 6, views illustrating a slight modification in the construction of the end formers.

A indicates the stock or body of the jaws which are commonly employed in pairs, both jaws being of like construction and each mounted upon suitable supporting and actuating mechanism, which, however, is not shown, as it forms no part of the present invention. Mounted in the stock or body of each jaw are blades or fingers B against the outer ends of which bear the removable formers C and C'. The fingers B are adapted to move lengthwise through the stock or body A so that their inner edges may assume a curved line corresponding to the inner face of the last, or a straighter line to conform to the outer side of the last,—the fingers being held in their different adjusted positions by means of the formers C and C' which are adapted to bear against the outer ends of the adjustable fingers substantially as in my application above referred to. Projecting from the outer face of the body of the jaws are two pins or studs D D, each of which is provided with

two reduced portions or necks E and F to which the formers C and C' are respectively adapted to be applied.

Upon an inspection of Fig. 4 it will be observed that the formers have at their ends L-shaped slots G to fit upon and to receive the necks E and F of the pins or studs D.

It will be noticed upon reference to Figs. 1 and 2 that the former C has straight sides, which when it is applied to the jaw are parallel with the rear wall of the stock or body of the jaw; and it will also be seen that when this former is applied as shown, all of the fingers or blades B will be pushed inward to their fullest extent.

Upon reference to Fig. 2 it will be noticed that the inner edges of the fingers or blades form a curved line corresponding to the inner face of the shoe while their outer ends form practically a straight line. In order to give the desired curvature to the fingers of the opposing jaw it will be necessary to apply a former C' which shall, by bearing upon the outer ends of the fingers, cause their inner ends or edges to form a line possessing less curvature than the line formed by the fingers having the former C bearing upon them, because the outer side of the last or shoe possesses a smaller degree of curvature than the inner side of the last or shoe. This former C' comprises a main bar or body and lateral projecting bearing faces which may be formed by a series of pins H as shown in Figs. 1 and 3, or by a curved plate or flange H' as shown in Figs. 5 and 6. Where the flange or plate H' is employed in lieu of the separate bearing studs, the edges of the plate may be made smooth as in Fig. 5 or notched or stepped as in Fig. 6. This former C' will be applied to the outer neck or reduced portion F of the pins or studs D, and it will be seen upon reference to Figs. 3, 5 and 6 that when this former is thus applied its bearing faces will maintain the inner edges or ends of the blades or fingers in a slightly curved line conforming to the outside of the shoe or last. When it is desired to last a left shoe the former C' is applied to the necks E of the studs D on one jaw, and the former C' applied to the necks F of the studs D of the opposite jaw, the result of which is that the fingers of the respective jaws are made to

conform to the sides of the last or shoe upon which they are to operate. Now when it is desired to last a right shoe the position of the formers C C' is reversed; that is to say, the former C is removed from one jaw and placed upon the reduced necks E of the studs D on the other jaw, while the former C' is applied to the outer reduced necks F of the studs formed upon the jaw to which the former C was formerly applied. It will therefore be seen that by simply transposing the formers C and C' the machine may be instantly adapted for working either upon rights or lefts, the construction of the formers being such as to insure the bringing of the fingers to the requisite and predetermined lines.

Having thus described my invention, what I claim is—

1. In a lasting machine, the combination of two jaws, each provided with a series of longitudinally-adjustable fingers; a removable former or bar applied to one of the jaws and having a bearing face to bring the fingers of said jaws into a position to conform to the inside of the last; and a second removable bar or former applied to the other jaw and having a bearing face to bring the fingers of said jaw into a position to conform to the outside of the last.

2. In a lasting machine, the combination of two jaws each provided with a series of lon-

gitudinally-adjustable fingers; and a pair of removable formers applied to said jaws, each of said formers having two bearing faces, whereby they are adapted to be interchangeably used upon the jaws to bring the fingers into position for lasting rights or lefts at will.

3. A lasting machine jaw having a series of longitudinal adjustable fingers or blades and the studs D provided with the necks E and F, in combination with the removable and interchangeable formers C and C'.

4. In combination with a stock or body provided with longitudinal adjustable fingers and the studs D having the necks F, the former C' provided with the lateral projecting stops or projections adapted to bear upon the outer ends of the fingers.

5. In a lasting machine, two jaws each provided with a series of longitudinally adjustable fingers, a flat faced former C, and a former C' provided with lateral projections,—said formers C and C' being adapted to be applied to either of said jaws, all substantially as shown and described.

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

EDGAR S. COMBS.

Witnesses:

HENRY M. GOODHUE,
SELDEN S. BROWN.