

(No Model.)

2 Sheets—Sheet 1.

O. CRIDDLE.

MACHINE FOR LASTING TOES OF BOOTS OR SHOES.

No. 560,896.

Patented May 26, 1896.

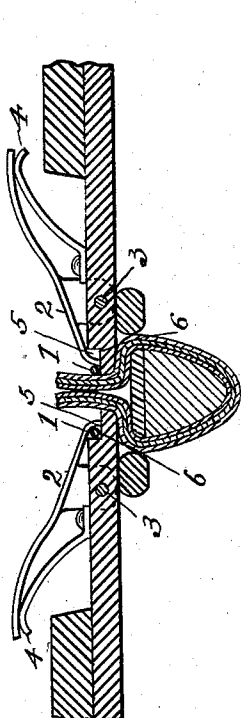


Fig. 5

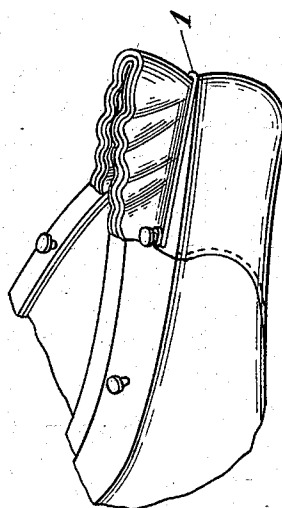


Fig. 4

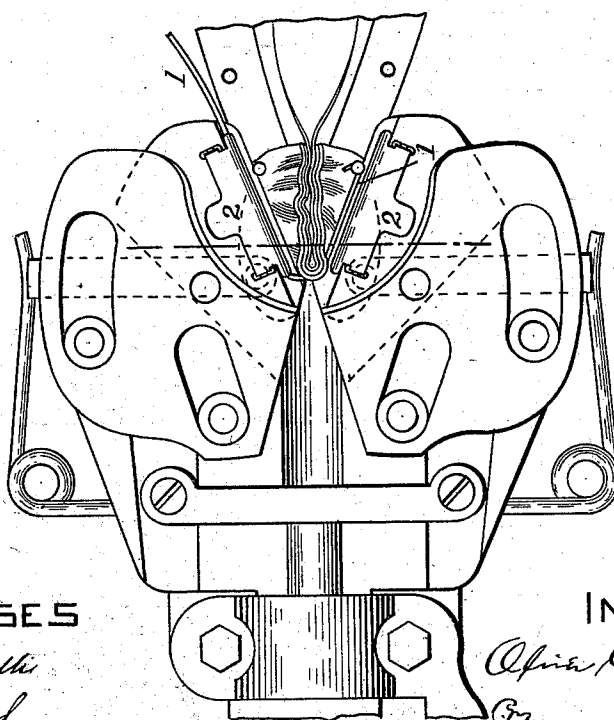


Fig. 1

WITNESSES
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(No Model.)

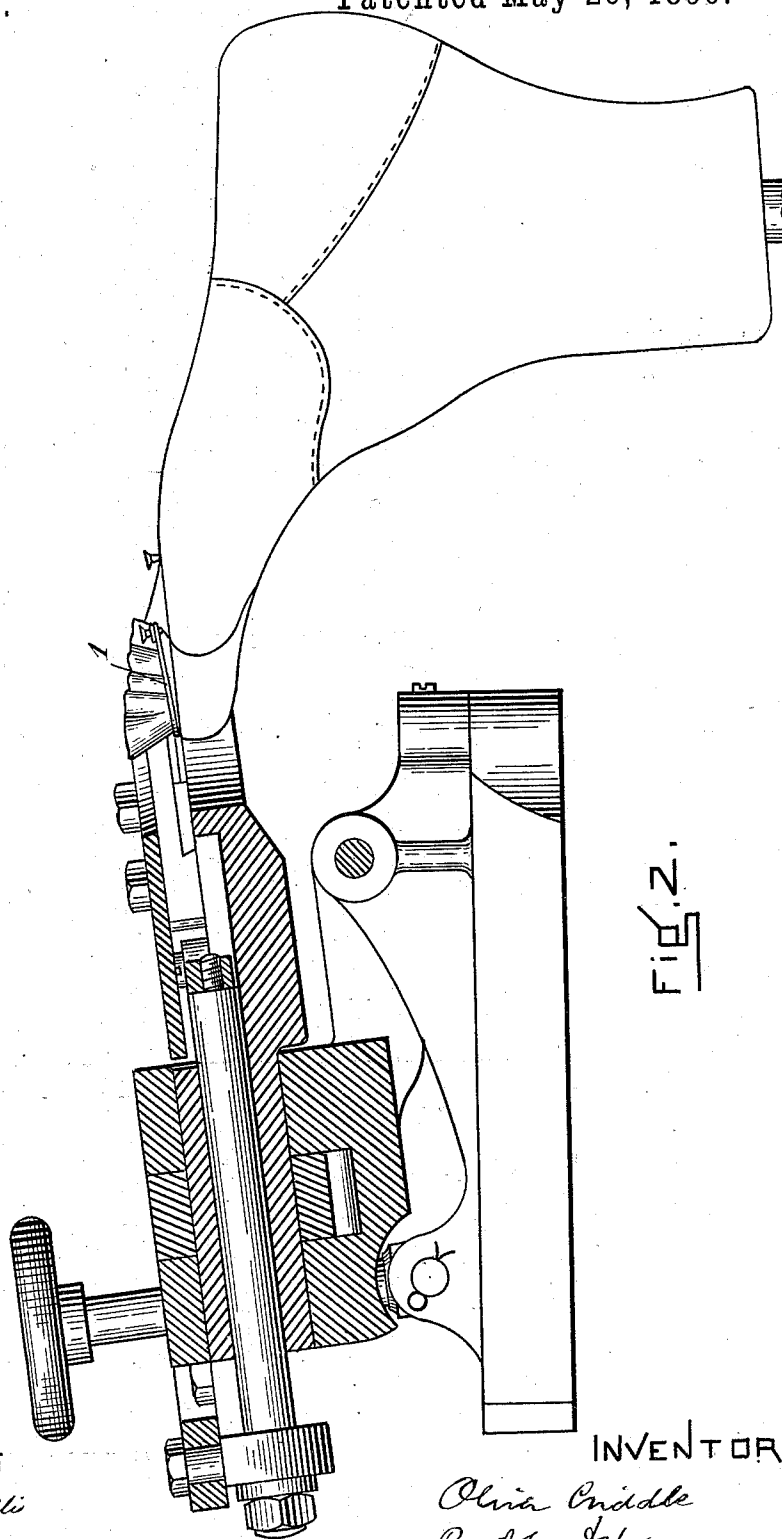
2 Sheets—Sheet 2.

O. CRIDDLE.

MACHINE FOR LASTING TOES OF BOOTS OR SHOES.

No. 560,896.

Patented May 26, 1896.



WITNESSES

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UNITED STATES PATENT OFFICE.

OLIVER CRIDDLE, OF ROCHESTER, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE GOODYEAR SHOE MACHINERY COMPANY, OF PORTLAND, MAINE.

MACHINE FOR LASTING TOES OF BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 560,896, dated May 26, 1896.

Application filed December 31, 1895. Serial No. 573,928. (No model.)

To all whom it may concern:

Be it known that I, OLIVER CRIDDLE, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Machines for Lasting the Toes of Boots or Shoes; and I do hereby declare the following, with the annexed drawings, to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In the machine-lasting of the uppers of boots and shoes it is usual to secure the uppers to the inner sole by tacks after the machine operation of turning over and ironing down is finished. Where the upper consists of several thicknesses, as at the toe, where there may be a lining, an upper, and a cap, it is necessary to place the tacks quite close in order to resist the tendency of said parts to draw away from the inner sole after the lasted upper is removed from the machine; also, when the upper is to be sewed to the inner sole the tacks have to be removed before the sewing process, and the upper is likely to be disarranged before the sewing process is finished, especially at the toe.

The object of this invention is to provide means by which the toe of the upper is permanently held in the position to which it is pressed by the action of the toe-lasting plates during the lasting process until the sewing process is finished. These means consist of a binder which is strung around the toe of the upper and properly secured before the toe-lasting plates are removed, and which will present no obstacle to the action of the needle of the sewing mechanism.

This invention also consists in constructing the toe-lasting plates so that they will properly indent the outer part of the upper to receive and hold the binder; also, providing the toe-lasting plates with suitable mechanism to facilitate the application of the binder.

In the drawings, Figure 1 is a plan of a portion of a toe-lasting head, showing the relation of the lasting-plates to the toe of a last, and also showing the means for holding the binder upon the lasting-plates preparatory to securing it around the toe of the upper. Fig.

2 is a vertical section of a toe-lasting head, showing the relation of the lasting-plates to the last, and also showing the binder secured around the toe of the upper. Fig. 3 is a vertical cross-section of the toe of a last, showing the lasting-plates fully advanced, and also showing the manner of holding the binder during the lasting process. Fig. 4 is an enlarged perspective elevation of the toe of a last with the lasted upper thereon and the binder secured in the recess formed by the edges of the lasting-plates.

The binder 1 is preferably made of small ductile wire, which can readily be wound around tacks fixed in the inner sole to secure it in position. This binder is drawn tight around the toe of the upper and there secured by fixing its ends to tacks fixed in the inner sole inside of the line of action of the toe-lasting plates, the binder drawing down into the slight groove formed in the upward-projecting parts of the upper by the action of the edges of the toe-lasting plates, which are preferably made nearly sharp on their upper surfaces, so as to indent acutely. To facilitate the attachment of these binders, the toe-lasting plates have retaining-clamps 2, pivoted to their upper surfaces, as shown by Figs. 1 and 3.

The clamps 2 are pivoted to the toe-lasting plates at 3 and are provided with a spring 4, which acts under their outer free ends to press their inner ends toward the surface of the recesses 6, formed near the working edges of the toe-lasting plates.

The inner ends of the clamps 2 are so curved that when they rest upon the surface of the recesses 6 chambers 5 are formed between the inner surfaces of the clamps and the corners of the recesses, as shown by Fig. 3. Into these chambers the end of a coil of suitable wire is introduced when the toe-lasting plates are at their backward limit of motion and before the upper assembled upon the last is fixed in position in the lasting-machine. Before placing the wire in the chamber the operator coils the free end of the wire so as to form an eye, which will just permit a tack to pass into it. After the toe-lasting plates are fully advanced, and it is desired to bind the

lasted toe in position, the operator inserts the point of a tack through the eye formed in the free end of the wire and fixes the tack firmly in the inner sole, and then places another
 5 tack on the opposite side of the last as shown in Fig. 1, and then moves the lasting-plates slightly back. Then grasping the wire on the side next the coil the operator draws the portion in the chambers 5 from under the clamp
 10 2 and firmly around the toe of the upper, and then secures it by winding several turns of the wire around the last-mentioned tack, which is left projecting above the surface of the upper for that purpose, and finishes by
 15 cutting the binder just attached from the coil.

It is obvious that cord or string may be used in the same manner as wire for the purpose of binding the toe of the upper in position, but that it cannot be so readily fixed in position.
 20

This binder is of particular advantage in the lasting of extremely sharp-pointed toes, where when tacks are used to secure the upper in position they require to be placed as
 25 close together as it is possible to drive them, and where the tacks have to be of extreme length on account of the thickness of the combined upper. These tacks all have to be removed before the sewing process, whereas
 30 the binder can remain in position until the whole toe of the upper is sewed to the inner

sole. Driving the tacks and then withdrawing them before the sewing process uses an equal if not longer period of time than attaching and removing the binder, and at the
 35 same time by the tack method there is liability of the uppers drawing out of position during the sewing operation.

Having thus described my invention, what I claim, and desire to secure by Letters Patent
 40 of the United States, is—

1. In combination with the toe-lasting plates of a lasting-machine, means connected to or formed with said plates for receiving, carrying and delivering a binder to the toe
 45 portion of a lasted upper, substantially as described.

2. In combination with a lasting-machine recessed toe-lasting plates, clamps elastically mounted thereon and moving in unison there-
 50 with, and binder-retaining chambers formed between said plates and said clamps.

3. In combination with a lasting-machine, toe-lasting plates provided with binder-retaining chambers, the edges of said plates being sharpened to crease the upper around the
 55 toe thereof for the purpose of receiving the binder, substantially as described.

OLIVER CRIDDLE.

Witnesses:

F. S. TODD,

BRYAN HARDING.