

W. E. FISCHER.  
LASTING MACHINE.

No. 44,916.

Patented Nov. 1, 1864.

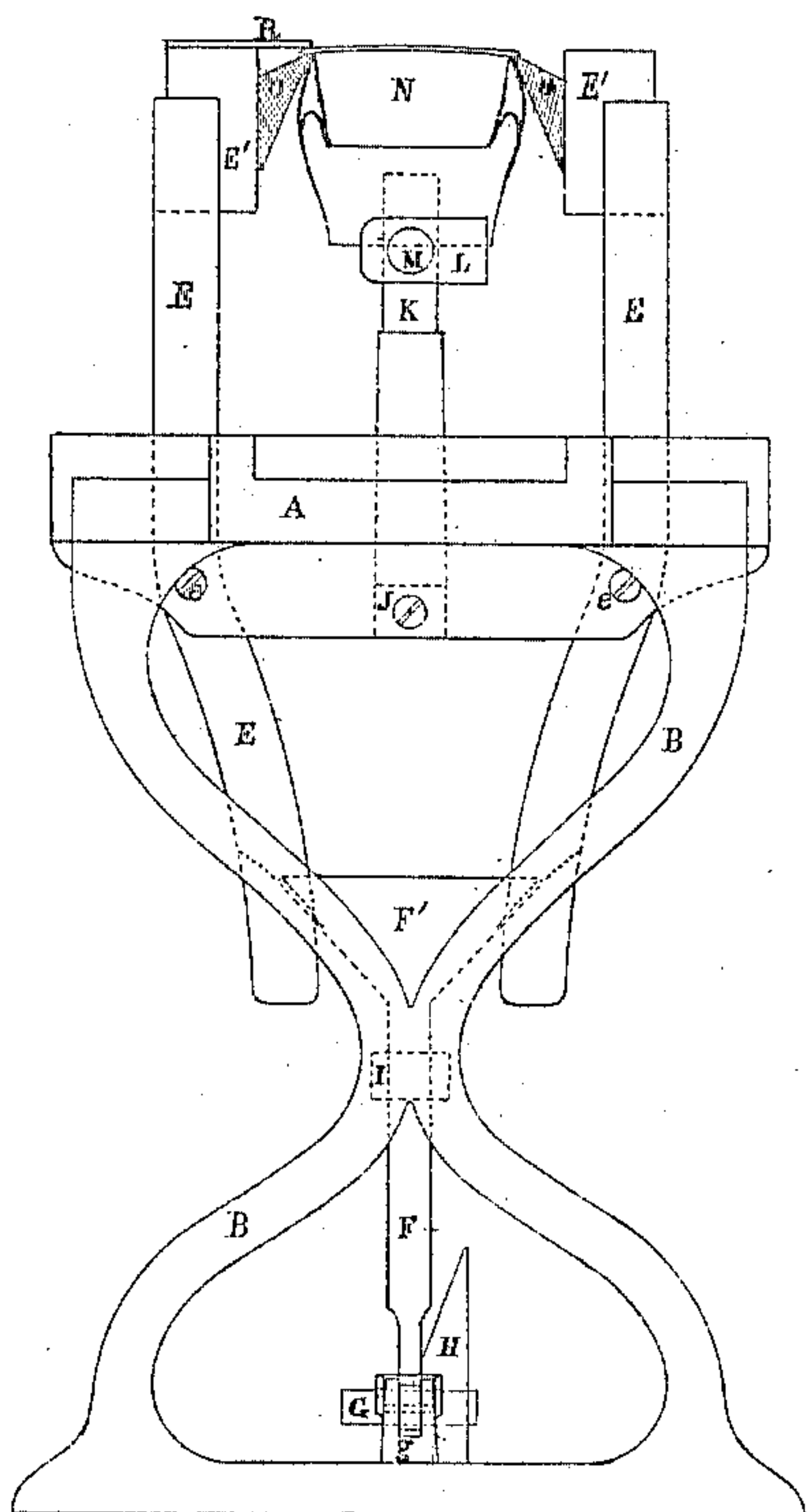


Fig. 2.

Witnesses  
Wm. M. Parker  
Henry C. Cobb

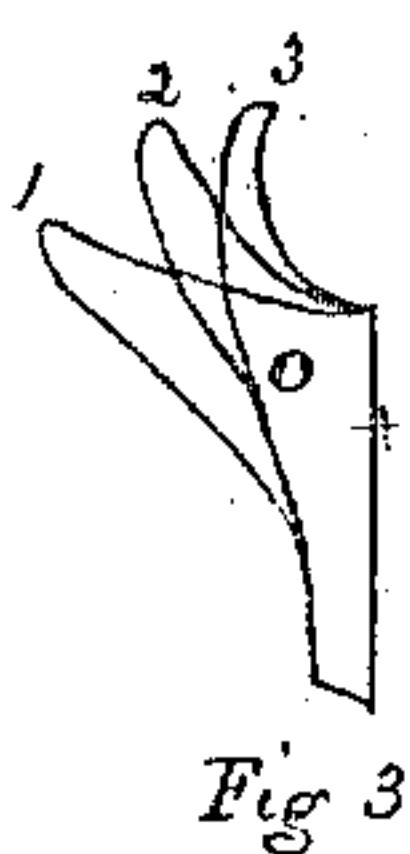


Fig. 3

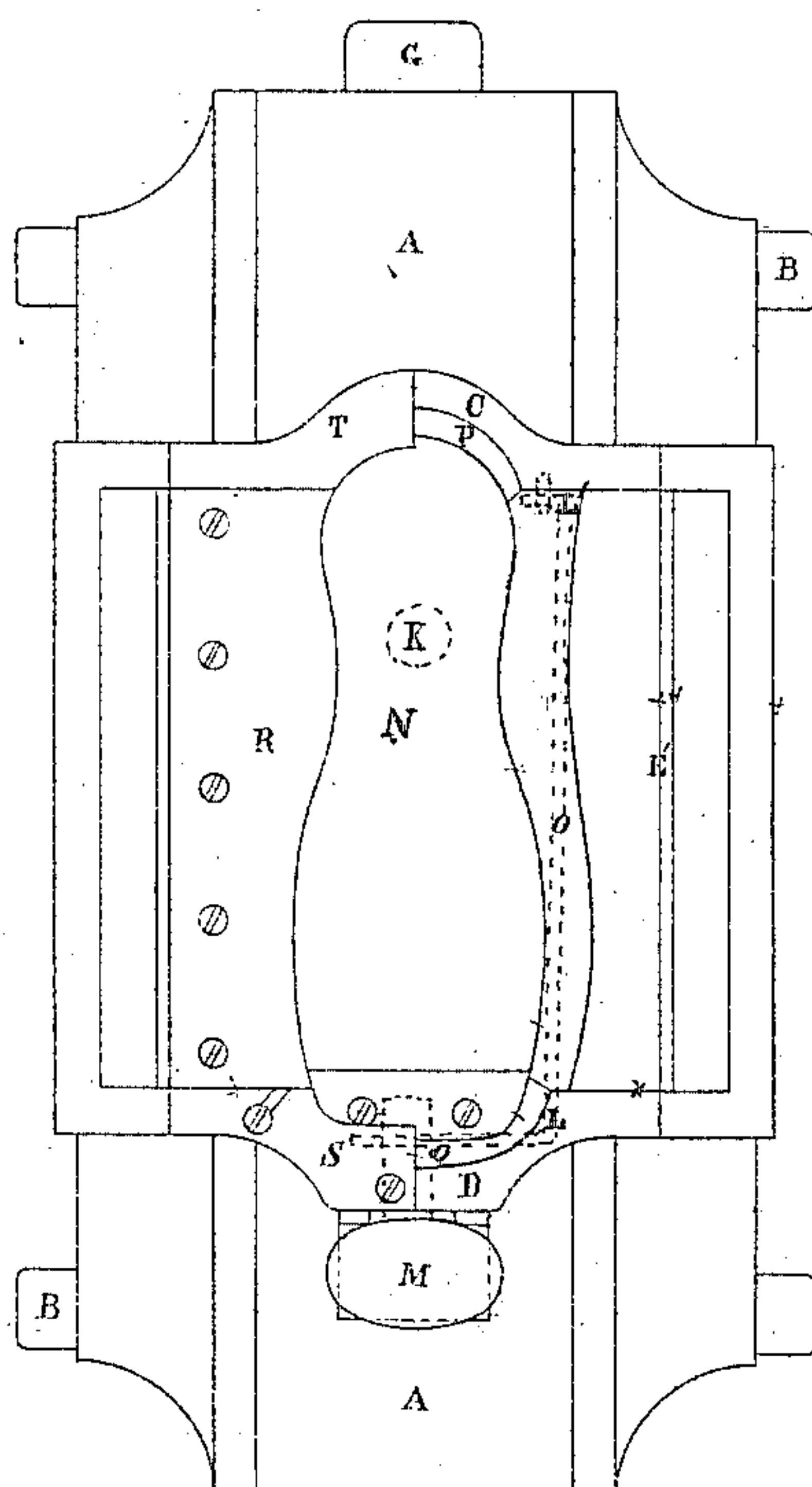


Fig. 1

Inventor  
W. E. Fischer

# UNITED STATES PATENT OFFICE.

WILLIAM E. FISCHER, OF BOSTON, ASSIGNOR TO ALFRED B. ELY, OF  
NEWTON, MASSACHUSETTS.

## IMPROVEMENT IN LASTING-MACHINES.

Specification forming part of Letters Patent No. 44,916, dated November 1, 1864.

*To all whom it may concern:*

Be it known that I, WILLIAM E. FISCHER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Machines for Lasting Boots and Shoes; and the following is a clear, full, and exact description of the same, taken in connection with the accompanying drawings.

In the construction of lasting-machines substantially rigid jaws for holding the leather to the last and rigid flanges extending over from the jaws for breaking down the edges of the leather over and upon the bottom of the last have been used as necessary devices; but as rigid jaws cannot well be made so to fit the form of the last as to hold the leather closely to its edge, the result has heretofore been that when the flanges broke down the leather over and upon the bottom it was crowded away more or less from the edge and side of the last, and so failed of a smooth and perfect fit; and this has been more especially the case where the flanges were rigidly fastened to the jaws and began to break down the leather before the jaws had pressed it up to the last. In hand-lasting, the leather is seized, drawn down, pulled over, and held by pinchers, and thus kept snug to the last. To accomplish a similar result by some device to be used in connection with lasting-machines is the object of my invention, which consists, substantially, in the employment of india-rubber or other equivalent elastic cheeks or linings to the jaws, so constructed that while in closing up they conform to the shape of the last they operate so as to press the leather up to and crowd or draw it down upon the last, and hold it snug while the flanges break it down over the bottom.

In adapting my invention I have used substantially the machine invented by Purinton and improved by Wells.

The following, in connection with the drawings, is a full description of my invention.

Figure 1 is a top view of my machine, with half the flanges removed. Fig. 2 is an end view, with the toe-jaw removed. Fig. 3 is a sectional view of a rubber cheek in three different positions assumed in lasting.

A is the table, mounted upon a frame, B. C is the heel-jaw, which is stationary on A. D

is the toe-jaw, hinged upon the table A. E E are clamps pivoted at *e e* to the table. E' E' are side jaws, attached to the clamps. F is a perpendicular rod midway the frame, having a wedge-shaped head, F', between the lower arms of the clamps at its upper end, and having its lower end attached to a long foot-lever, G, which is pivoted at one end to a projection, *g*, on one of the feet of the frame, and at the other end catching into a notch in a projection, H, on the other foot of the frame when pressed down. I is a slot in a brace of the frame, through which the cam wedge-rod F passes. K is a pin having its lower end, J, fastened to the table or frame and its upper end inserted into a hole in the last for supporting it in place. This is in working machines made adjustable. L is an iron clasp or bar fastened to the heel-jaw at L' and brought round behind the toe-jaw. M is a thumb-screw passing through the toe-jaw D and through a female screw in L, for the purpose of advancing or receding the hinged toe-jaw to or from the last. N is the last, supported upon the rod or pin K. O P Q are my rubber cheeks or linings of the jaws, fastened to them by screws. R S T are the flanges to the jaws.

The method of operation is as follows: The toe jaw D is turned back a little on its hinge. The foot-lever G is raised, and the side jaws, E' E', are thrown open. The last, with its insole and upper, is placed upon the pin K within the jaws C D E' E'. The lever G is then pressed down with the foot and confined in the notch of the projection H. In pressing down the lever the wedge-cam F' crowds out the lower arms of the pivoted clamps E E, and the jaws E' E' are closed up. The toe jaw D is then closed up by turning the thumb-screw M. In closing the jaws the rubber cheeks O O press against the sides of the upper-leather, and as the jaws continue to close, the edges and sides of the cheeks, adapting themselves to the form of the last, are thrown up and back and draw or rub the leather snugly down to the edge of the last. The leather being thus held is broken down by the flanges over and upon the bottom of the last, where it is confined by pegs, nails, or otherwise. Fig. 3 will give a view of a vertical section of the rubber cheek, as used by me, as it appears substantially before, during, and after the



closing up of the jaws. The best form for these cheeks I have found to be such as I represent in my drawings and machine, being strips of rubber of a triangular shape vertically, and the object of this is that the upper part may reach or crowd up and retreat as it is pressed onto the shoe, and so not only conform to the shape of the last and press against it, but continue that conformation and pressure up to the edge of the last and up to the flange as it breaks down the upper, at the same time operating so as to push or draw down the leather over the last. A mere cushion will not accomplish this end.

For ordinary purposes in the machines I have used, these cheeks need not be applied, except upon the side jaws. Instead of the jaws being moved up to the last, as is necessary where the flanges are made rigid upon

or form a part of the jaws, the jaws may be lined with rubber, and then, being placed in position, the last, with its upper, may be crowded down into the lined jaws, and then the flanges, where they are needed, be made to move over and break down the leather.

I do not now claim a mere solid elastic pad intended to operate only within the hollow of the last; but

What I do claim, and desire to secure by Letters Patent, is—

The application of rubber or other equivalent elastic cheeks or linings to the jaws or clamps of lasting machines, substantially as and for the purposes described.

W. E. FISCHER.

Witnesses:

W. M. PARKER,  
HENRY E. COBB.