

(No Model.)

2 Sheets—Sheet 1.

S. W. LADD.  
LASTING MACHINE.

No. 510,974.

Patented Dec. 19, 1893.

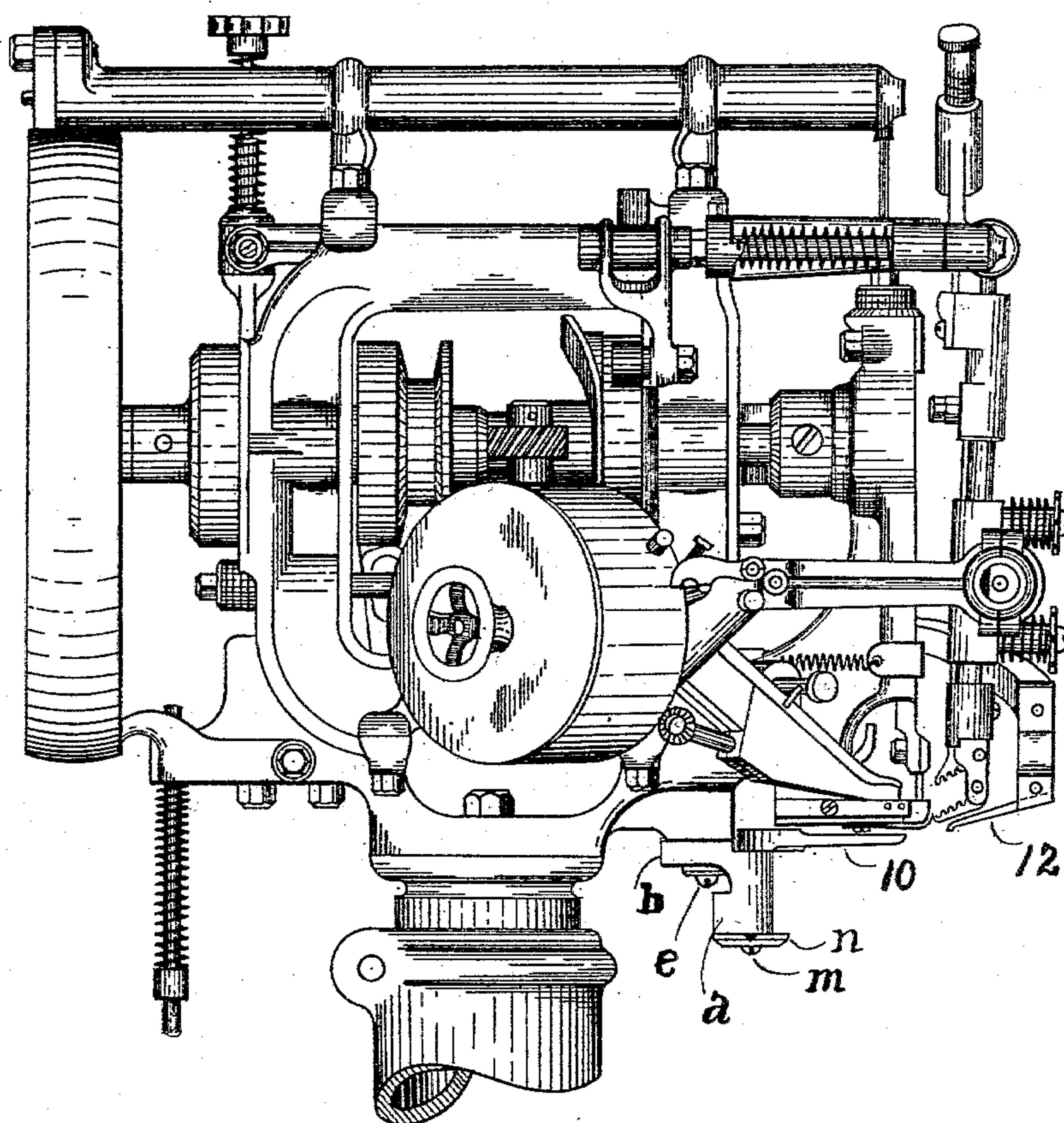


Fig. 1.

WITNESSES:

*L. H. S. Ladd*  
*M. J. Morse*

INVENTOR

*S. W. Ladd*

BY

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ATTORNEYS

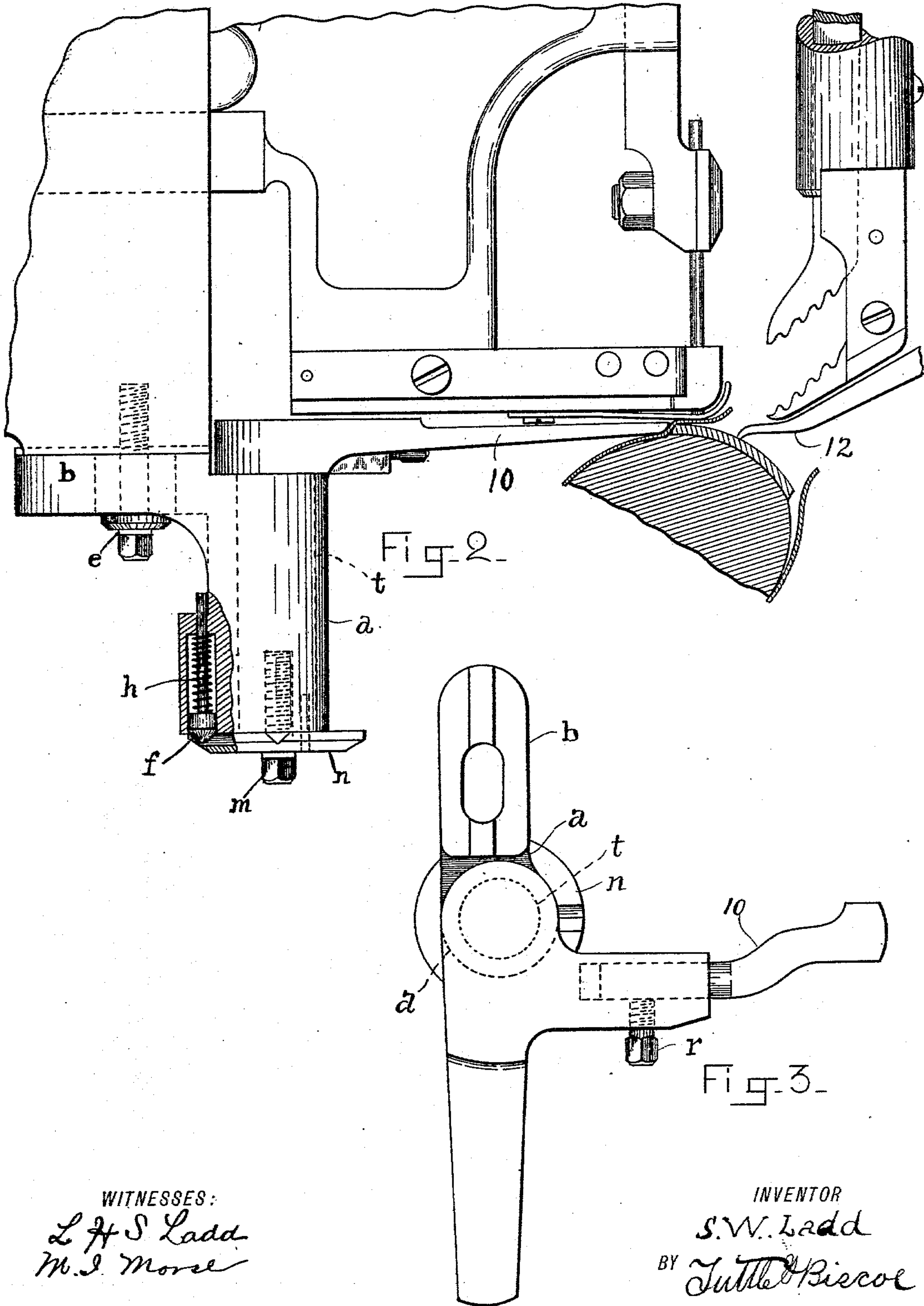
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L. H. S. Ladd  
M. J. Morse

INVENTOR  
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# UNITED STATES PATENT OFFICE.

SHERMAN W. LADD, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR TO  
THE CONSOLIDATED HAND METHOD LASTING MACHINE COMPANY,  
OF NASHUA, NEW HAMPSHIRE.

## LASTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 510,974, dated December 19, 1893.

Application filed August 24, 1892. Serial No. 443,960. (No model.)

*To all whom it may concern:*

Be it known that I, SHERMAN W. LADD, a citizen of the United States, residing at Somerville, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain Improvements in Lasting-Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention is represented and described as applied to that class of machines described in Letters Patent of the United States No. 423,922. In the present instance only such parts of the mechanism are represented as constitute the present invention and illustrate its combination with other co-operative parts.

For a more full understanding of the machine and its operation, reference is had to said Letters Patent No. 423,922.

In the drawings, Figure 1 is a side elevation of the machine, having embodied in it the parts which constitute this invention. Fig. 2 is a side elevation of a section of the machine and the parts composing this invention applied thereto and is on an enlarged scale. Fig. 3 is a plan view representing parts detached from the machine, also on an enlarged scale, to be referred to hereinafter.

It may be here stated that the machine comprises a pinchers or gripping mechanism and operating devices therefor by means of which, in the operation of the machine, the pinchers are made to seize the upper, draw it upward and backward over the bottom of the last and down in position to receive the fastening tack and also are further made to have a lateral movement to either side, in order to form the plaiting at the heel, toe and occasionally at other points.

The shoe is prepared for lasting by first putting the upper on to the last, drawing it over at the toe and preferably at the sides also, and there securing it with tacks or other fastening devices; usually one tack being employed in each of said places, whereby the upper is held in position on the last. It is then taken in hand by the workman and held up to the machine, supported and turned by

the hands of the workman, during the completion of the lasting process.

In order that the shoe may be easily held in position while the pinchers are drawing and stretching the upper over the last, and the lasting tack is being inserted, a rest or downhold, 12, is provided. Said rest is held by suitable connections to the machine head, or other suitable support, and drops down to the position desired, relative to the pinchers. (See Fig. 2.) To further assist the workman, an edge-guide, 10, is employed which is also supported on suitable connection with the machine head or other support and projects forward relatively to the pinchers and rest, 12, so that when the shoe is held with the last bearing upwardly against the rest and the edge thereof with the upper is pressed against the edge guide, 10, the upper being turned inward over the last, the upper will then be in position for the pinchers to come forward and clasp the turned edge of the upper for stretching, drawing and otherwise manipulating it in the lasting process. The operation of the pinchers, it will be understood, is so timed that the pinchers having gripped, strained and stretched the upper into position, let go their bite and give place for the tacking mechanism to come forward, as shown in Fig. 2, for driving the fastening tack. The shoe, it will be understood, is shifted and turned about to present the various parts thereof successively, as desired, to the pinchers.

In the operation of the machine described in Letters Patent No. 423,922 it has been demonstrated that different classes of work are best performed with differently formed edge-guides; in some cases it is desirable to have the end face of the guide thicker than is found to be preferable in other cases, so that a variety of differently formed edge guides are preferable in order to obtain the best results with different kinds of work. In some cases it is desirable to have the edge guide formed with a narrow edge face and a thin body portion leading backwardly therefrom to permit the shoe being tipped or rocked under, (see Fig. 2,) thereby giving a comparatively straight tension to the pinchers pull, while in



other cases it is desirable to have the shoe more upright to present a more angular tension for the pinchers pull. In this latter case a comparatively thick guide is preferable and in extreme cases, no edge guide is wanted.

It is desirable in lasting different parts of the same shoe to secure the results obtainable by the use of differently formed edge guides, so that the desirability of employing differently formed edge guides is frequently and almost continuously occurring.

It is an object of this present invention to provide a series of differently formed edge-guides and supporting mechanism therefor whereby the said guides shall be in connection with the machine and so that the workman may move into working relation with the pinchers and rest, 12, that particular one of the edge guides which, in a required instance it may be desirable to employ and to provide means whereby the shifting of one guide for another may be quickly effected during the continuous operation of the machine.

In carrying out my invention I employ a hollow journal sleeve, *a*, which is provided with an extension arm, *b*, whereby it is connected with the machine, as shown in Fig. 2. The connection is made by means of a flange-headed screw, *e*, the shank whereof passes through an oblong hole in the extension, *b*, and fixes into the machine, in order to clamp the journal sleeve in connection with the machine and permit adjustment thereof toward and from the pinchers. In said journal sleeve is socketed a conically ended pin, *f*, (Fig. 2.) Said pin permits endwise reciprocation and is surrounded by a suitable spring, *h*, arranged as shown in Fig. 2, whereby the said pin is pressed yieldingly downward against the flange, *n*. Said flange is adjustably secured by means of a screw, *m*, to a shaft, *t*, and is provided with cavities or sockets for receiving the conical end of pin, *f*. The shaft, *t*, is journaled so as to permit rotary movement in the journal sleeve, *a*, and carries on its top end a hub from which are projected the edge guides, 10, as shown in Fig. 3. As shown in the present instance, Fig. 3, two guides are represented as projecting from the hub, but others may be projected therefrom in a similar manner, when desired. Said guides project forward so that when in alignment with the rest, 12 and pinchers, their outer or working ends will be in position of working relation to said rest and pinchers, as shown in Fig. 2. The guides, 10, may be arranged to permit independent adjustment in the hub, as shown in Fig. 3, by means of a suitable holding socket and clamp-screw, *r*, as shown. It will now be understood that for each of the guides, 10, there is a pin receiving socket in the flange, *n*, the relation being such that

when a particular guide is moved into the position of working relation to the rest and pinchers, the pin, *f*, drops into a cavity in the flange, *n*, thereby sustaining the position of the guide against the lateral strain and with a yielding tension so that whenever the workman desires to shift one guide for another, he places one hand to the guide and applies thereto a lateral pressure sufficient to lift the pin, *f*, out of its cavity in the flange, *n*, whereupon the shaft, *t*, permits the rotation necessary for bringing the intended guide into the position of working relation, the other guides being, by this same movement, displaced. In case no edge guide is wanted, the rotation of shaft, *t*, is carried to a point where all guides are out of the position of working relation.

I claim and desire by Letters Patent to secure—

1. In a lasting machine, the combination with the pinchers of a pivoted edge guide support, a plurality of edge guides of different shapes or construction carried by the said support, and adapted to be brought into operative positions, one at a time, and means for holding the support fixed in position with any one of the edge guides in operative position, substantially as set forth.

2. In a lasting machine, the combination with the pinchers and the last rest, of the movable edge guide support, and a plurality of edge guides carried thereby, and adapted to be brought into operative positions, one at a time, by a movement of the support, the said edge guides being differently formed or constructed, and a lock for holding the edge guide support in position with any one of the edge guides in operative position, and the other guides out of operative or working position, substantially as set forth.

3. In a lasting machine, in combination with the reciprocating pinchers and last-rest, a revoluble shaft, or stud, *t*, and a series of edge-guides, 10, projecting therefrom, means for supporting the stud, and a yielding connection interposed between the stud and its supporting means against which the guides are moved, substantially as described.

4. In a lasting machine, in combination with the pinchers, a last-rest, the revoluble stud or shaft, *t*, and a series of edge-guides, projecting therefrom, means for supporting the stud and a yielding clutch interposed between the stud and its support, provided with a projection adapted to enter the cavity in the stud and against which the edge guides are moved, substantially as described.

Signed at Boston this 11th day of July, A. D. 1892.

SHERMAN W. LADD.

Witnesses:

JOHN S. HALL,  
JOHN F. BISCOE.