

(No Model.)

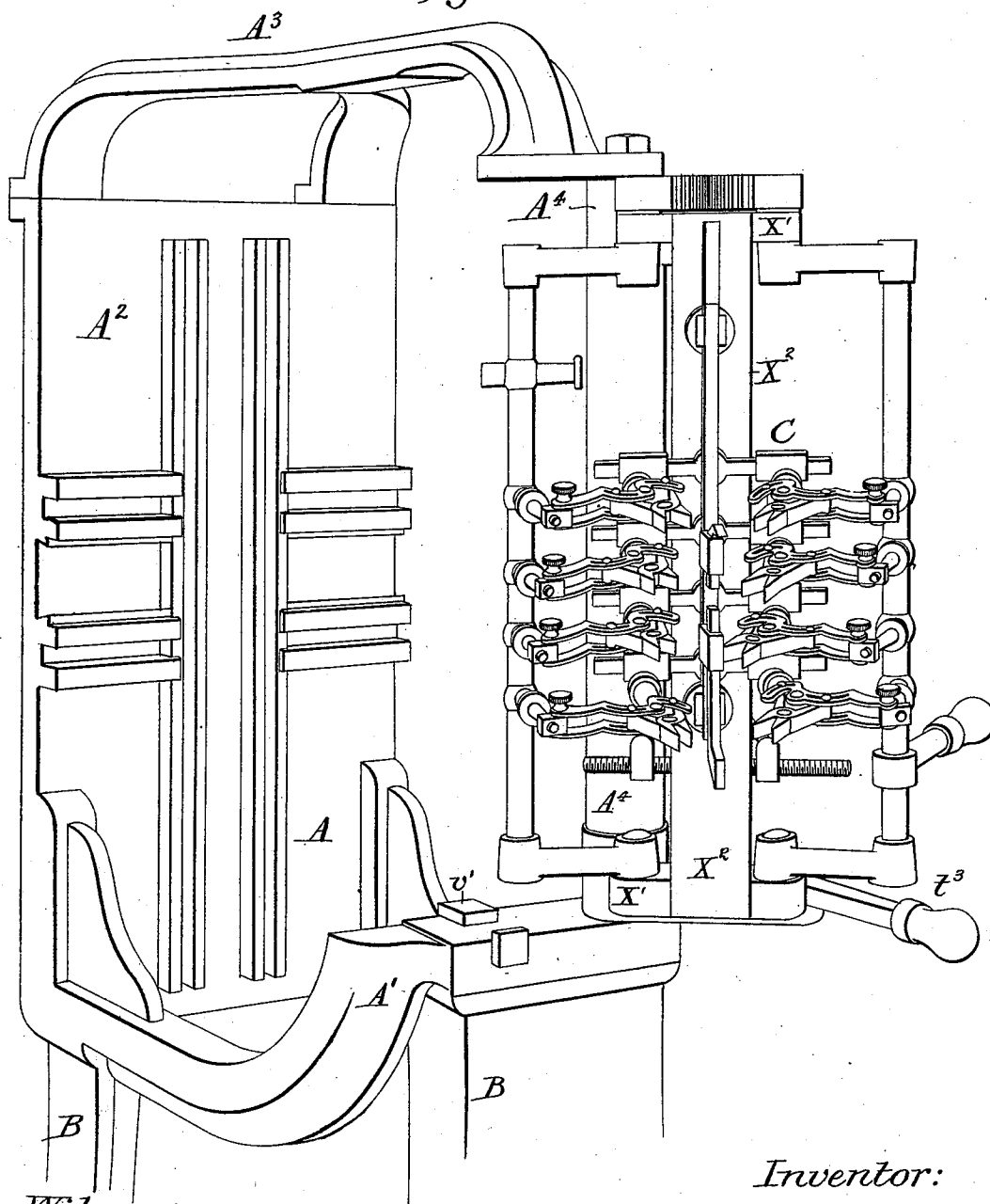
4 Sheets—Sheet 1.

F. D. BUTRICKS.  
LASTING MACHINE.

No. 507,782.

Patented Oct. 31, 1893.

*Fig. 1.*



*Witnesses:*

*James F. Duhamel*  
*Horace A. Dodge*

*Inventor:*

*Frederick D. Butricks,*  
*by Dodge & Sons,*  
*Attys.*

(No Model.)

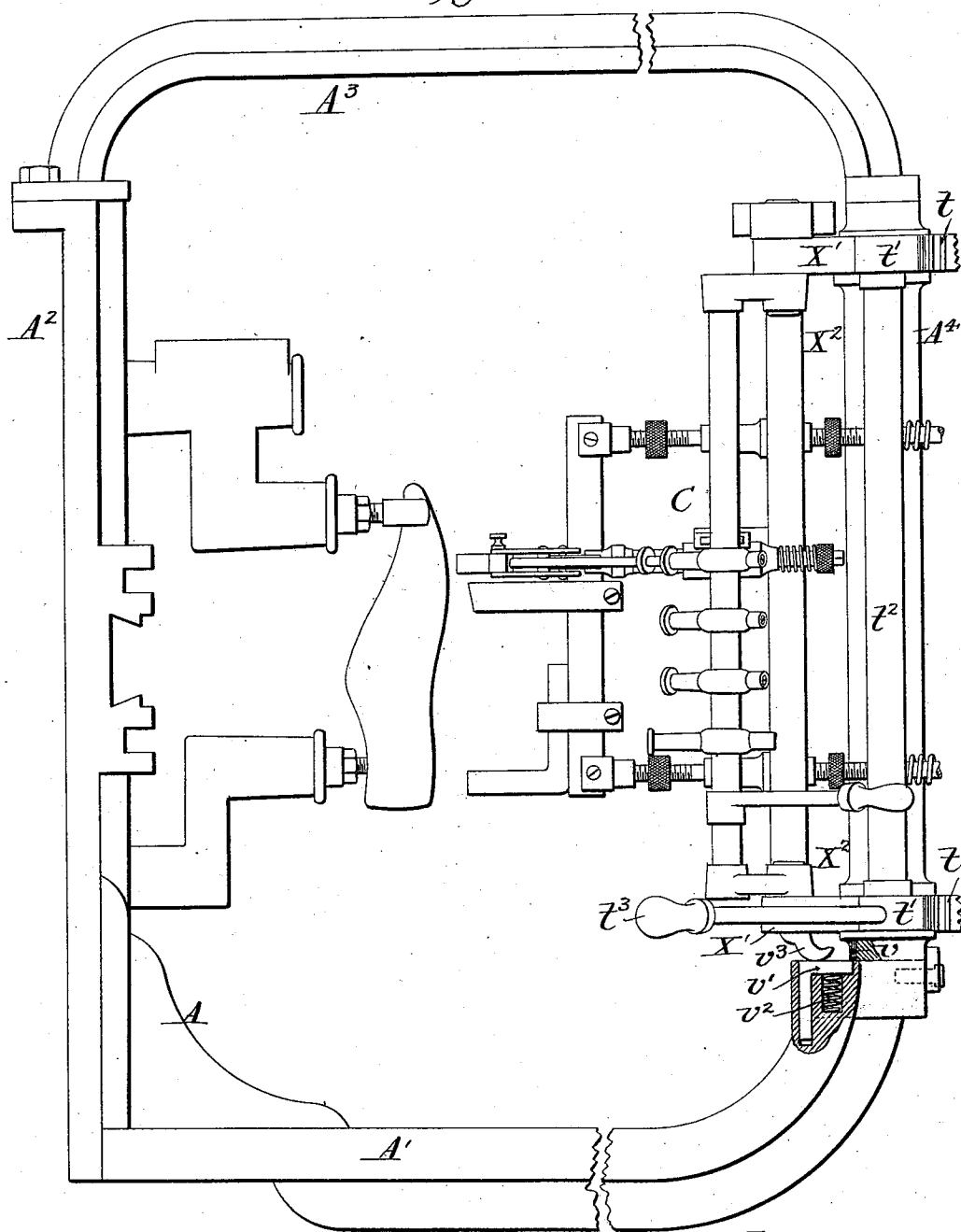
4 Sheets—Sheet 2.

F. D. BUTRICKS.  
LASTING MACHINE.

No. 507,782.

Patented Oct. 31, 1893.

*Fig. 2.*



*Witnesses:*

*James F. Duhamel*  
*Horace A. Dodge*

*Inventor:*

*Frederick D. Butricks,*  
*by Dodge & Sons,*  
*Atty.*

(No Model.)

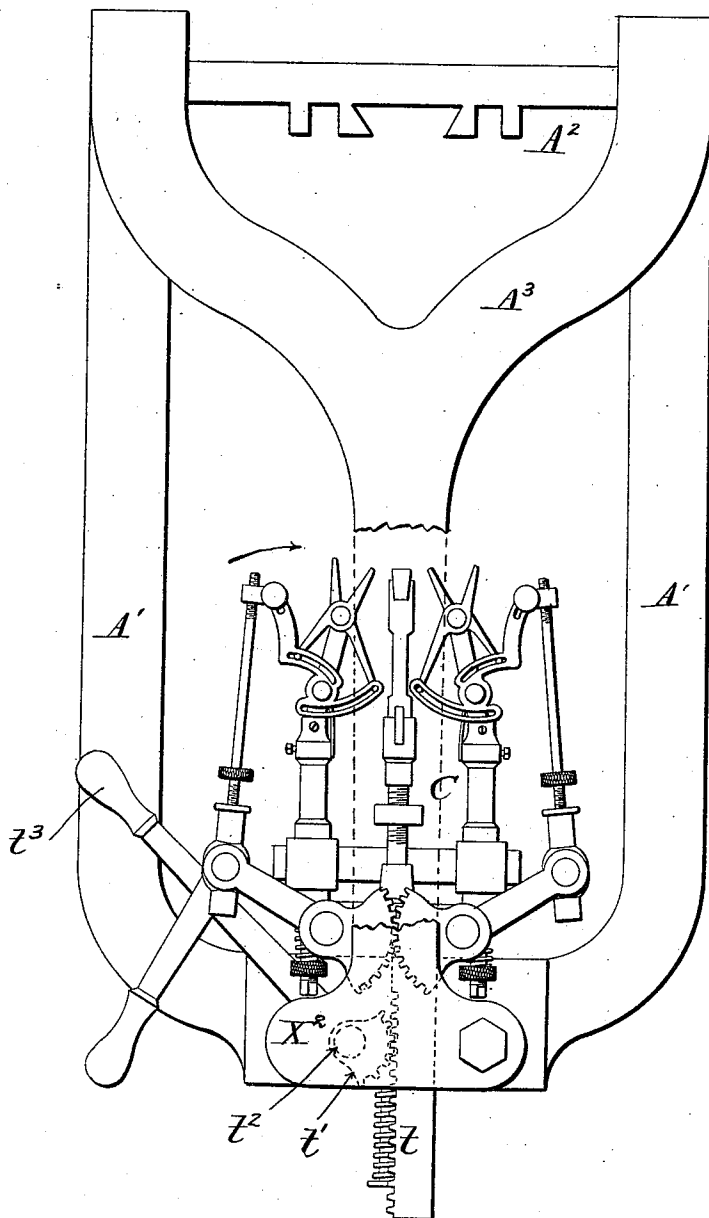
4 Sheets—Sheet 3.

F. D. BUTRICKS.  
LASTING MACHINE.

No. 507,782.

Patented Oct. 31, 1893.

*Fig. 3.*



*Witnesses:*

*James D. Duhamel*  
*Horace A. Dodge*

*Inventor:*

*Frederick D. Butricks,*  
*by Dodge & Sons,*  
*Attys.*

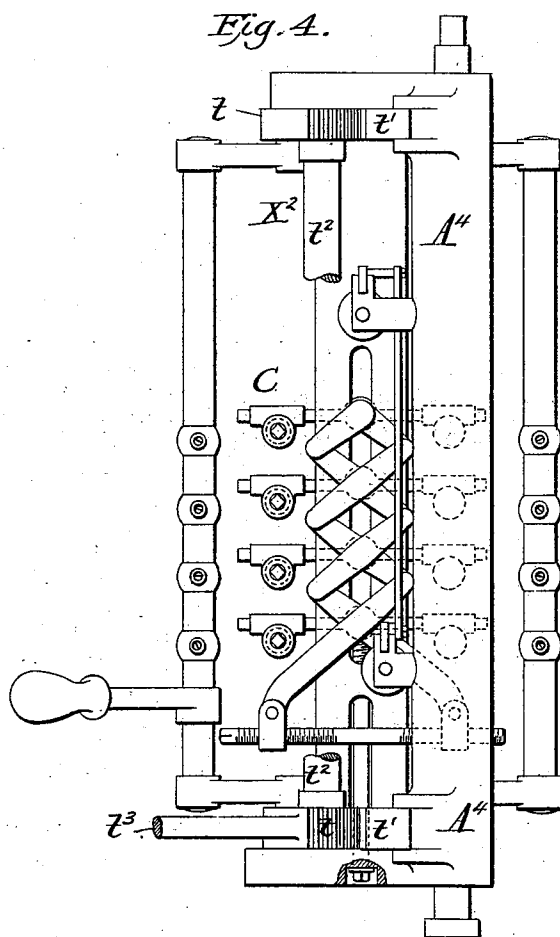
(No Model.)

4 Sheets—Sheet 4.

F. D. BUTRICKS.  
LASTING MACHINE.

No. 507,782.

Patented Oct. 31, 1893.



*Witnesses:*

*James F. Duhamel.*  
*Horace A. Dodge.*

*Inventor:*

*Frederick D. Butricks*  
*by Dodge & Lowe,*  
*Atty.*

# UNITED STATES PATENT OFFICE.

FREDERICK D. BUTRICKS, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO  
WILLIAM S. KING, OF MINNEAPOLIS, MINNESOTA.

## LASTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 507,782, dated October 31, 1893.

Application filed March 23, 1889. Serial No. 305,145. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK D. BUTRICKS, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Lasting-Machines, of which the following is a specification.

My invention relates to machines for lasting shoes, and is in the nature of an improvement or perfection of inventions for which Letters Patent were granted to Seth W. Paine and Edgar S. Combs, bearing date the 11th day of January, 1887, and numbered, respectively, 355,784, 355,785, and 355,786.

In the drawings,—Figure 1 is a perspective view of a portion of a lasting machine showing my improvements applied thereto; Fig. 2 a side elevation of the same; Fig. 3 a top plan view partly in section, and Fig. 4 a detail view.

The improvements are applicable more particularly to that class of machines designed to first draw the upper lengthwise of the last toward or over the toe and laterally, then to draw the sides past the insole, and, lastly, while the upper is still under strain of the stretching mechanism, to fold or press the edges of the upper smoothly and evenly over and upon the insole, to which it is secured in any convenient manner, a suitable cement being preferably employed for the purpose.

With this plan of operation in view, I construct the machine as shown in the drawings, wherein A indicates a metallic frame supported by legs B, and comprising a horizontal bed portion A<sup>1</sup>, and upright back plate, A<sup>2</sup>, an overarching arm, A<sup>3</sup>, and a vertical post or standard, A<sup>4</sup>, which latter serves to sustain the forward end of arm A<sup>3</sup>, and also forms a pivotal support about which the pincher-carrying frame C may swing in carrying the pinchers into or out of working position. The vertical back plate, A<sup>2</sup>, of the main frame carries the last supports, the heel, toe, and side wipers or folders and their supports and the operating mechanism of such wipers or folders. The overarching arm A<sup>3</sup> carries the controlling and actuating mechanism of the toe-pinchers, and the side pinchers with their controlling and actuating mechanism are car-

ried by the frame C, which as above mentioned, is swiveled upon and swings in a horizontal plane about the upright post or standard A<sup>4</sup>.

While the form of frame shown in the drawings is found to work well in practice I do not wish to be understood as limiting myself to that special form, as it is obvious that it may be varied without in the least departing from the spirit of my invention.

The construction of the last supports, the heel, toe, and side wipers or folders and their supports, and the operating mechanism of such wipers or folders form no part of the present invention. The same is true of the toe-pinchers and the side pinchers, and their controlling and actuating mechanism; the present invention relating solely to the construction and arrangement of the swinging head or frame which carries or supports the pinchers or devices for stretching the upper on the last.

The frame C, which swings upon the upright post A<sup>4</sup> of frame A, is provided with a sliding sash or frame X<sup>2</sup>, the upper and lower bars or cross heads X<sup>1</sup> of which move in guides in the swinging frame, and as the pincher carriers are supported by the cross heads, it will be seen that the pinchers are movable toward and from the last in a right line and are also adapted to swing laterally with reference to the last. The upper and lower bars X<sup>1</sup> X<sup>1</sup> are made in the form of toothed racks t, t, which receive the toothed sectors t' carried by the vertical rockshaft t<sup>2</sup>, journaled in the swinging frame C and furnished with a hand lever t<sup>3</sup> by which said shaft may be turned to advance or recede the rack bars, and consequently the sash or frame and attendant parts.

It is important that when the side pinchers are being advanced to grasp the upper, and during the initial stretching, or until the strain becomes sufficient to prevent the frame C from swinging about its pivot, some provision be made for holding said frame against such movement until the sash is retracted, and then to release or unlock it. I accordingly form a vertical slot or groove, v, in the lower end of the axial bar A<sup>4</sup> of frame C, and seat in the upper face of horizontal arm or

bed A' of the main frame a locking bolt or slide,  $v'$ , which is urged upward by a spring,  $v^2$ . Whenever the slot or groove  $v$  and the slide  $v'$  come into alignment, the spring throws the bolt into said slot unless it be held down in some way. When the sash is advanced, the locking slide is free to thus rise and lock frame C, but as said frame is drawn back a curved foot piece  $v^3$ , carried by said sash, rides over the top of locking bolt or slide  $v'$  and depresses it, thereby releasing frame C and leaving it free to be swung about its axis, which, however, is not done until the pinchers are detached from the upper. As the frame C begins to swing laterally, the slot or groove  $v$  passes out of alignment with the locking-bolt, which, extending slightly beneath the end or shoulder of upright A', cannot rise until the frame is again swung back. Any other suitable locking mechanism may be substituted for that just described.

Having thus described my invention, what I claim is—

1. In combination with a last and supports therefor adapted to hold the last with its sole in a vertical plane, a frame provided with

stretching devices to act upon an upper carried by the last, said frame being arranged to swing in a horizontal plane into and out of alignment with the last.

2. In a lasting machine, the combination of a last, a frame adapted to swing laterally in reference thereto, and a sash or sliding frame movable within the swinging frame and carrying pinchers or stretching devices to act upon an upper carried by the last.

3. In combination with a last or work support, a laterally swinging frame in front thereof, a sash or frame mounted in said swinging frame and movable toward and from the last, a catch or locking bolt adapted to lock the swinging frame against lateral movement, and a toe or trip carried by the sliding sash and serving to force back the catch and unlock the swinging frame when the sash moves back to a prescribed point.

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

FREDERICK D. BUTRICKS.

Witnesses:

FRED. H. WALDRON,  
CASSIUS W. KELLY.