

No. 845,109.

PATENTED FEB. 26, 1907.

E. S. MORTON.
LAST THIMBLE.

APPLICATION FILED JAN. 15, 1906.

Fig. 1.

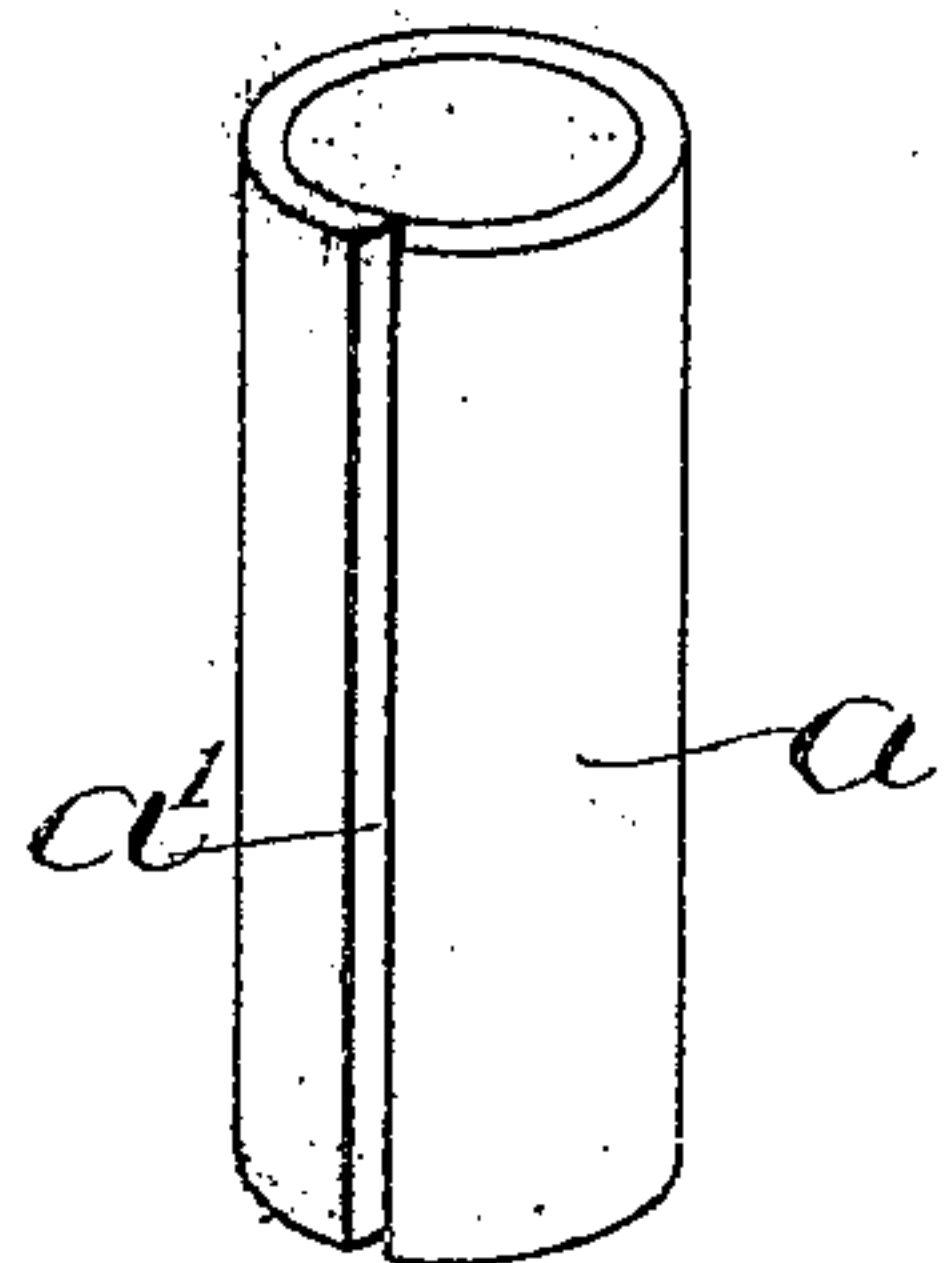


Fig. 2.

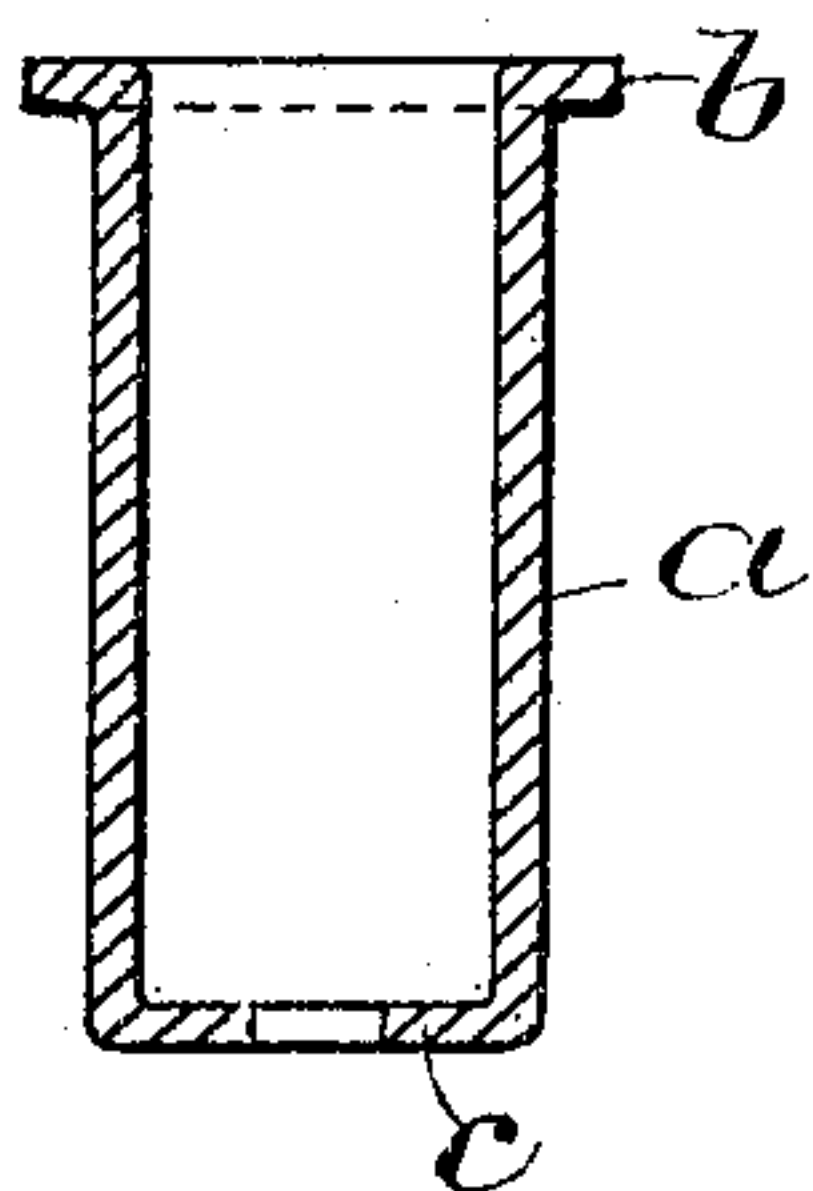


Fig. 3.

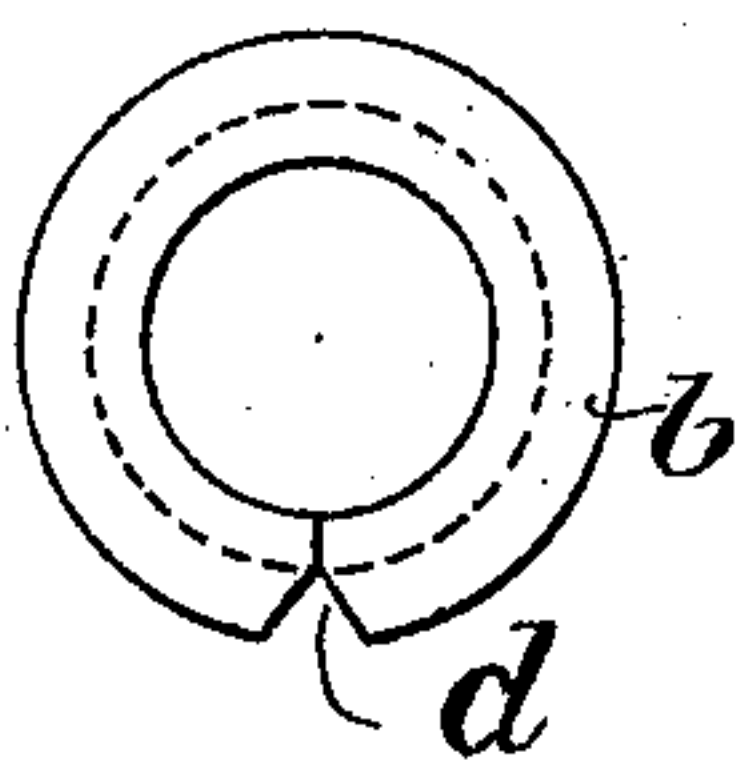
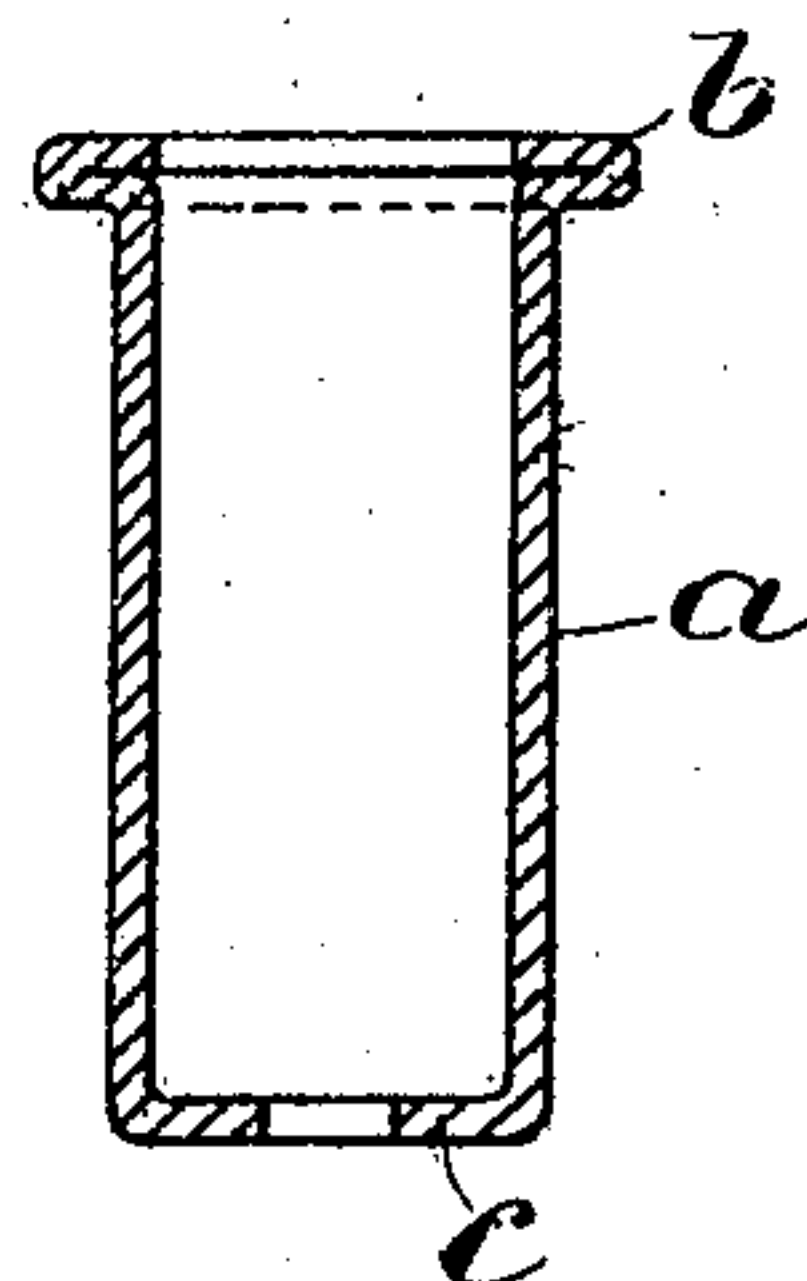


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

EPHRAIM S. MORTON, OF BROCKTON, MASSACHUSETTS.

LAST-THIMBLE.

No. 845,109.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed January 15, 1906; Serial No. 296,019.

To all whom it may concern:

Be it known that I, EPHRAIM S. MORTON, of Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Thimbles or Bushings for Lasts, of which the following is a specification.

This invention relates to thimbles or bushings which are inserted in the spindle-sockets of lasts to receive a jack-spindle on which the last is supported during certain parts of the operation of making a boot or shoe on the last. The pressure applied to the last tending to tip it in various directions on the spindle also tends to cause the spindle to split the last. To overcome this tendency, the socket bored in the wood of the last is commonly reinforced with a metallic thimble or bushing which must be of such strength and stiffness as to resist the tendency of the spindle to exert splitting pressure on the walls of the socket.

My invention has for its object to provide a thimble or bushing of relatively cheap construction and of sufficient stiffness and strength to withstand the expanding pressure to which it is subjected.

To this end my invention consists in the improved thimble or bushing which I will now proceed to describe.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a perspective view of a partially-formed blank adapted to be converted into a thimble or bushing embodying my invention. Fig. 2 represents a longitudinal section of a completed thimble or bushing constructed in accordance with my invention. Fig. 3 represents an end view of the thimble shown in Fig. 2. Fig. 4 represents a sectional view of a thimble having a doubled outer end flange.

The same letters of reference indicate the same parts in all the figures.

Carrying out my invention I take a rectangular sheet-metal blank and bend the same into a tube *a*, as indicated in Fig. 1, the two edges being abutted together and forming a seam *a'*, extending lengthwise of the tube. The tube thus formed is not suited for use as a thimble or bushing, because it has not sufficient stiffness to resist pressure tending to open or enlarge the tube, and thus

cause it to transmit splitting pressure to the last. To adapt the tube for use as an operative thimble or bushing, I provide it at its upper end with an outwardly-turned flange *b* and at its inner end with an inwardly-turned flange *c*.

The operation of turning the flange *b* causes the edges of the portion of the blank which forms the flange to diverge and form a notch or recess *d*, which interrupts the continuity of the outer portion of the flange, as shown in Fig. 3. When the thimble is driven into the last, the notch of the flange is caused to receive a portion of the top of the last. The thimble is thus locked to the last, so that it cannot turn therein.

The flange *b* is formed by doubling a portion of the material, as indicated in Fig. 4, this operation being effected by longitudinal pressure exerted on the outer end of the tube in such manner as to cause a portion of the tube to buckle or bend outwardly. This pressure is continued until the sides of the buckled portion are brought together. The doubled flange *b* thus formed is very stiff and rigid owing to its circular form and to its double thickness, its rigidity being such that it is enabled to withstand any pressure liable to be exerted on it tending to expand or open the thimble. It is, in fact, so strong and rigid that when the thimble is driven into the last the said flange is able to force its way into the wood around the upper end of the hole previously bored in the wood, excepting at the point where the notch *d* occurs. The unbroken fibers of the wood project into said notch and prevent any turning and consequent loosening of the thimble. The inwardly-turned flange *c* is of single thickness and serves not only to stiffen the lower end of the tube against expanding pressure, but also as a seat for the end of the spindle inserted in the thimble when the last is in use.

My improved thimble or bushing may be constructed at very small expense and is at the same time suited in all respects for the purpose for which it is intended, and, as has been mentioned, it may be driven into the previously-bored hole or socket in the last with its upper flange embedded in the wood, so that it cannot become loose, and

will withstand all the expanding pressure to which it can be subjected when the last is in use on a jack-spindle.

I claim—

- 5 A thimble or bushing for lasts composed of a blank bent into a tube, one end of the tube being turned inwardly to form a stiffening-flange and spindle-seat, the other end being bent to form an outwardly-projecting

stiffening-flange, which is interrupted by a notch or recess adapted to receive a portion of the last.

In testimony whereof I have affixed my signature in presence of two witnesses.

EPHRAIM S. MORTON.

Witnesses:

C. F. BROWN,
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