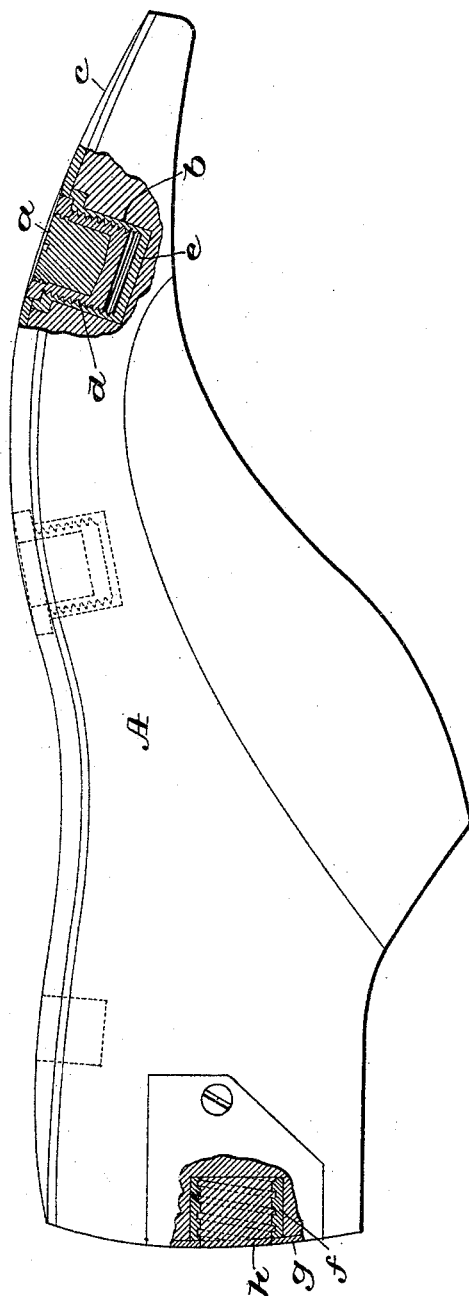


(No Model.)

E. C. MOODY.  
LAST.

No. 491,489.

Patented Feb. 7, 1893.



*Witnesses.*

Fred S. Greenleaf.  
Louis W. Grisell

*Inventor:*

Emery C. Moody  
by Crosby & Gregory  
Atty.

# UNITED STATES PATENT OFFICE.

EMERY C. MOODY, OF AVON, ASSIGNOR OF ONE-HALF TO HENRY A. PEACH,  
OF RANDOLPH, MASSACHUSETTS.

## LAST.

SPECIFICATION forming part of Letters Patent No. 491,489, dated February 7, 1893.

Application filed July 15, 1892. Serial No. 440,092. (No model.)

*To all whom it may concern:*

Be it known that I, EMERY C. MOODY, of Avon, county of Norfolk, State of Massachusetts, have invented an Improvement in Lasts, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

In the manufacture of boots and shoes there is very great loss in lasts due to driving into them the lasting nails used to confine the sole to the last during the lasting and subsequent operations. Many expedients have been resorted to to avoid this loss, among which are inserted plugs.

In my efforts to overcome the objectionable wear and splitting due to the action of the nails, I have devised a metallic shell or cup adapted to be inserted in a hole made for its reception in the last, said shell or cup receiving removably within it a plug-containing holder, in such manner that the plug should its holding properties be overcome in use, may be readily removed from the shell for the ready insertion of a new plug.

In many previous constructions the awl as it is being driven to make a hole for the nail, is driven too far and passes through the plug into the wood of the last, and so also when the shell is omitted the driving of the awl into the plug by expanding the latter, strains the last, but in my construction there is a solid metal wall without slot or joint surrounding the plug, on all sides excepting its outer end. The usual metallic plate on the bottom of the last may and preferably will be applied to the last after the insertion of the shell, the sole plate keeping the shell in place yet permitting the plug to be easily removed at any time, the holder being slotted to be engaged by a screw driver. I have provided the heel of the last with devices to prevent it from being split by the nail holding the upper on the last at the heel.

The drawing, in side elevation partially broken out shows a last provided with my invention.

The last A may be of any usual or suitable shape or material. The bottom of the last

has bored into it suitable holes for the reception of my improved devices for sustaining the plugs *a*, the latter being composed preferably of a preparation of semi-hard rubber, but for the plug I may use any material into which the awl may be driven without injury, and which will then receive and hold the usual lasting nail firmly. The holes having been made in the last, the shells *b* are inserted therein, and preferably the holes or openings made in the usual metallic bottom plate *c* of the last are of such diameter as to co-operate with the upper end of the shell and retain the same in working position. The plug holder *d* is made as a cup into which the plug material is forced or crowded and thereby retained in place ready for application to the last. This holder is adapted to be plugged at pleasure, and to be removed and replaced when its plug is worn out and to be re-plugged until broken. Being in the form of a cup and of metal, the awl cannot be driven through the plug into the material of the last; and serving as it does to confine the plug on all sides but its outer end, the said plug cannot be unduly expanded and thereby ruined by the awl. This saves the time of the operator in digging out the plug material from a hole in the bottom of the last. Preferably the holder will be screwed into the shell in the last. I have shown the plug as crossed below its lower end with metal as at *e* so that the awl will not be driven through the plug into the wood of and split the last.

To obviate the splitting of the heel, I have bored a hole in the heel of the last, inserted therein a shell *f*, and surrounded the heel of the last outside the shell with a heel plate *g*, and inside the shell I have applied the nail holding plug *h*.

I have shown but one plug in full in the bottom of the last, but in practice the bottom of the last will usually contain three plugs, one at the ball, one at the heel, and one between the ball and toe.

I am not aware that prior to my invention a plug adapted to be entered by a nail, has ever been incased in a surrounding metallic shell having a closed metallic bottom.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

5 The combination with a last and a metallic shell or cup inserted therein, of a metallic cup containing an awl-receiving plug adapted to be removably inserted in said shell, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EMERY C. MOODY.

Witnesses:

THOMAS FOX,  
LIZZIE A. FLOOD.