

(No Model.)

E. D. WOODS.  
LAST.

No. 498,044.

Patented May 23, 1893.

FIG. 1.

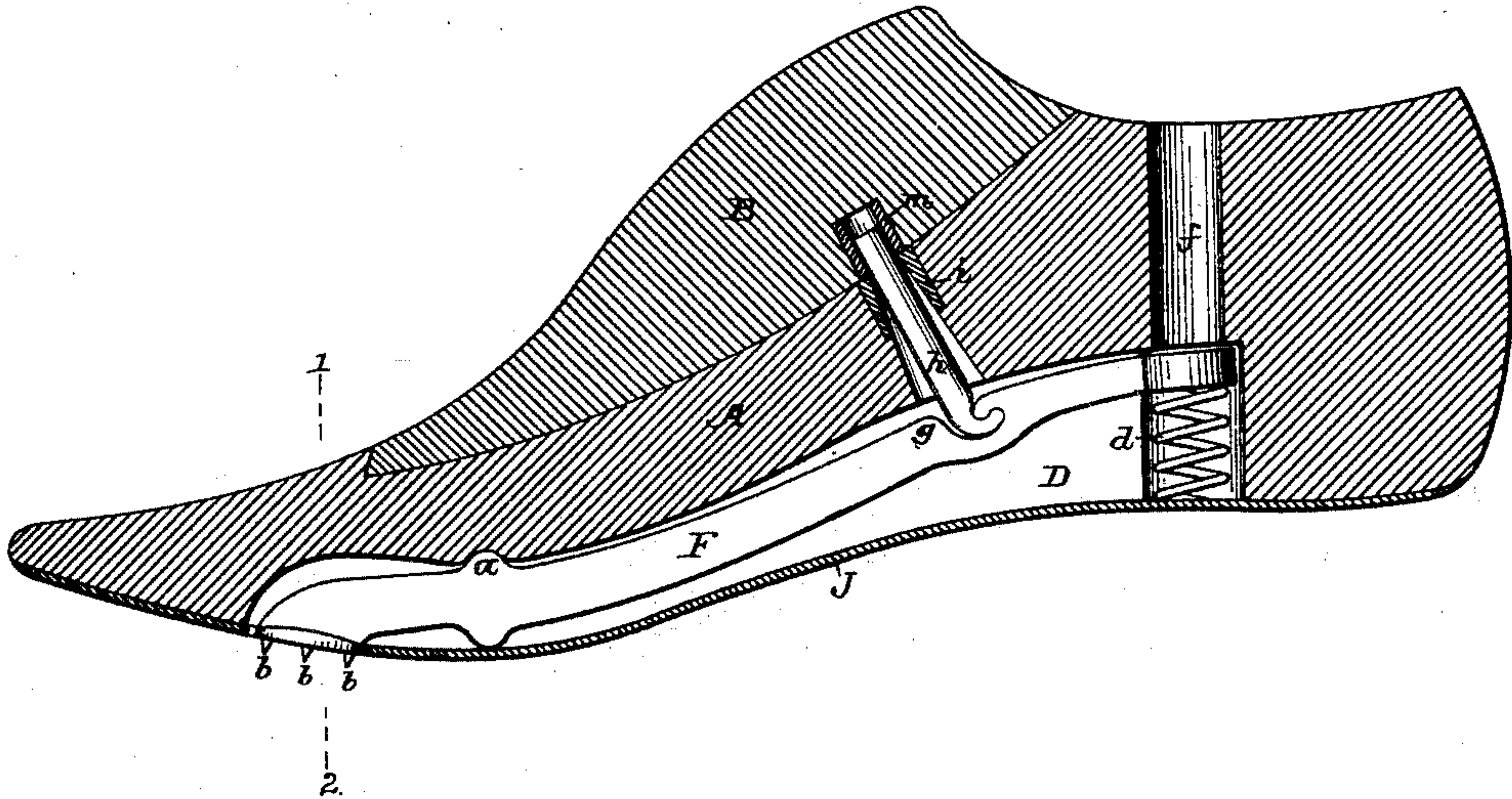


FIG. 2.

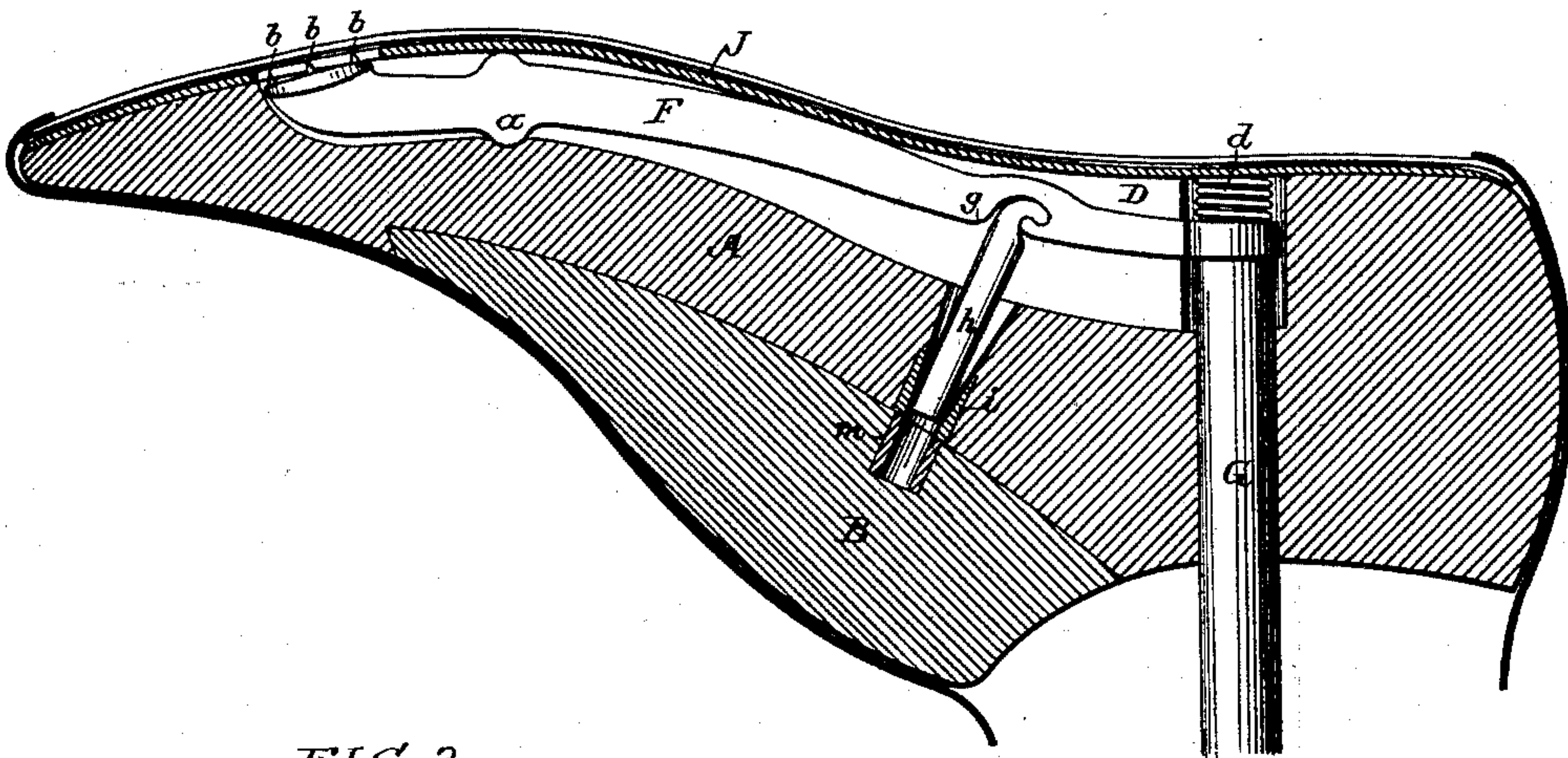


FIG. 3.

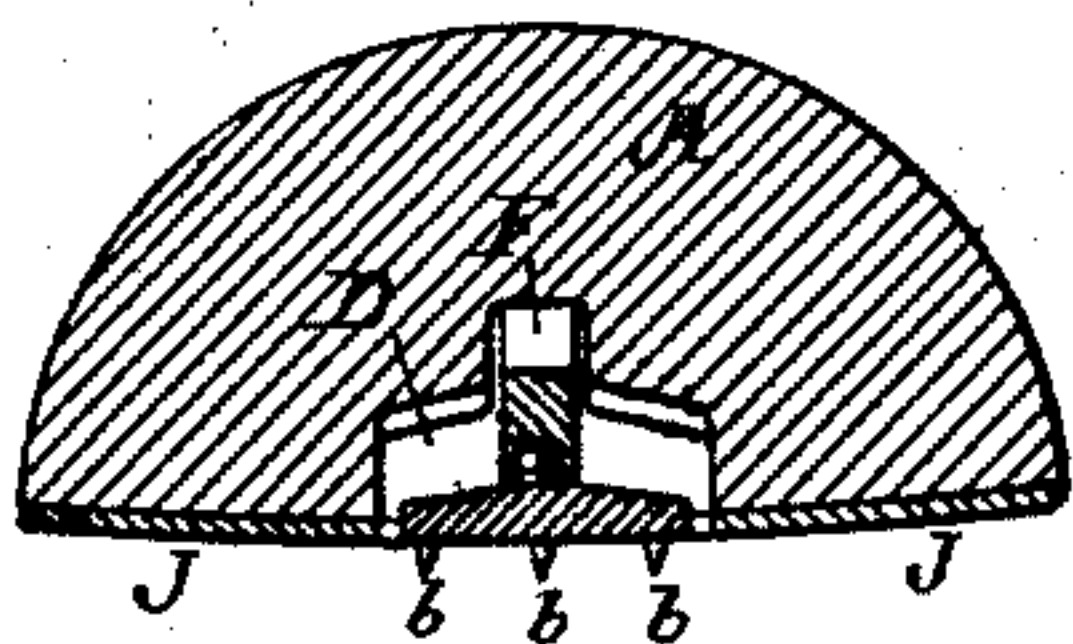
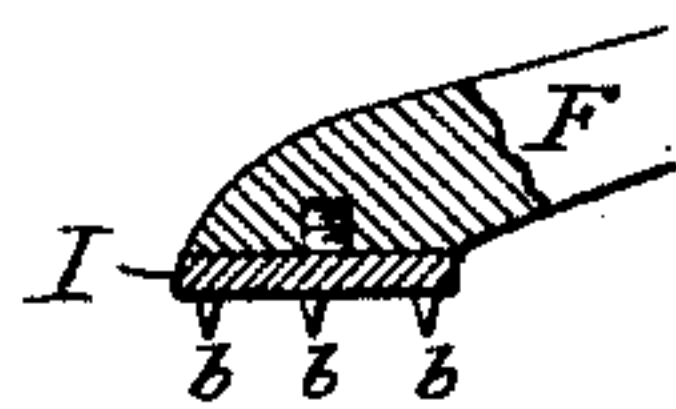


FIG. 4.



Witnesses:  
R. Schleicher.  
F. D. Goodwin

Inventor:  
Edward D. Woods  
by his Attorneys  
Howson & Howson



# UNITED STATES PATENT OFFICE.

EDWARD D. WOODS, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF THREE-FOURTHS TO ALFRED S. HOTTLE, OF PHILADELPHIA, PENNSYLVANIA, AND JAMES B. HICKMAN, OF WILMINGTON, DELAWARE.

## LAST.

SPECIFICATION forming part of Letters Patent No. 498,044, dated May 23, 1893.

Application filed February 11, 1893. Serial No. 461,871. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD D. WOODS, a citizen of the United States, and a resident of Boston, Massachusetts, have invented certain  
5 Improvements in Shoemakers' Lasts, of which the following is a specification.

The object of my invention is to so construct a shoemaker's last that the insole will be firmly retained in position thereon without the  
10 necessity of tacking or nailing it, as usual, but will be automatically released when it is desired to remove the shoe from the last, a further object being to provide for the effective retention of the top block of the last, and the  
15 automatic release of the same when the last is pushed upon the spindle preparatory to the removal of the lasted shoe therefrom.

In the accompanying drawings:—Figure 1, is a longitudinal section of a last constructed  
20 in accordance with my invention. Fig. 2, is a similar view showing the parts in different positions. Fig. 3, is a transverse section on the line 1—2; and Fig. 4, is a detached view illustrating a detail of the invention.

25 A represents the body of the last and B the top block of the same constructed as usual. In the lower portion of the body of the last is formed a recess D which is covered by the metallic bottom plate J of the last, or by a narrow  
30 plate in that class of lasts in which the sole is secured by tacks. Within this recess D is a lever F having a pivot lug *a* mounted in a seat at the top of the recess, one arm of this lever carrying one or more prongs *b* which  
35 project through an opening in the metal bottom plate of the last and are normally caused to project so as to engage the insole, this projection being caused by the action of a spring *d* upon the long arm of the lever F, which  
40 arm terminates directly in line with the opening *f* formed in the last for the reception of the usual spindle G upon which the last is mounted.

In the lever F is a recess *g* for the reception of the hooked lower end of a bolt *h* which  
45 passes through an opening in the body of the last and is guided by a ferrule *i* in said opening, the projecting portion of the bolt engaging with a ferrule *m* adapted to an opening  
50 in the top block of the last so that when the

parts are in the position shown in Fig. 1, the two parts of the last are firmly locked or bolted together, and the prongs *b* project beyond the metal bottom plate of the last so as to engage with and retain the insole applied there-  
55 to, said sole being firmly held in position while the lasting of the upper is being effected and the secure engagement of the prongs with the sole in the first instance being insured by reason of the fact that the projection on the last-  
60 ing nippers presses the insole firmly down upon said prongs in the act of imparting the first pull to the upper in lasting the same. After the shoe has been lasted, however, the mounting of the last upon the spindle or stem  
65 G, as shown in Fig. 2, brings the long arm of the lever F into contact with the end of said spindle and thus causes a movement of the lever, against the action of the spring, so as to withdraw the prongs *b* from engagement  
70 with the insole and at the same time retract the bolt *h* so as to unlock the top block B of the last and permit of the removal of the same preparatory to the removal of the lasted shoe. By this means the expense of tacking or nail-  
75 ing the insoles upon the last, and the mutilation of the last caused thereby, are effectually overcome. Moreover, the simple act of mounting the last upon the spindle has the effect  
80 not only of automatically releasing the insole, but at the same time automatically withdrawing the locking bolt *h* and thus unlocking the top block B so that no care and attention on the part of the operator are required for the  
85 performance of either of these duties and the time usually required for this purpose is wholly saved. The device, moreover, is of a very simple character, being composed of cast-  
90 ings which can be fitted together without any expensive machine work.

It may be advisable in most cases to provide the lever F with a plate I carrying one or more prongs *b*, as shown in Fig. 4 this plate being screwed onto the end of the lever so as  
95 to be readily renewable in case the prongs become broken or otherwise unserviceable.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. A last having a recessed body, and a lever pivoted at a point between its opposite ends 100



in said recess, and having at one end one or more securing prongs for retaining the insole on the last, the other end of the lever terminating adjacent to an opening in the body of the last so as to provide for the operation of the lever and the withdrawal of the prongs from the insole, substantially as specified.

2. The combination of the body and top block of a last, with an arm or lever mounted in a recess in the body of the last and carrying a bolt adapted to engage with the top block, said lever terminating adjacent to the spindle opening in the rear portion of the body of the last so as to provide for the withdrawal of the bolt upon the insertion of the spindle, substantially as specified.

3. The combination of the last having a body portion with recess therein, a lever mounted in said recess and having projecting prongs for engaging with the insole, a bolt carried by said lever and engaging with the top block of the last, and means for operating the lever so as to provide for the simultaneous withdrawal of the holding prongs and locking bolt, substantially as specified.

4. The combination of the body of the last having a bottom recess and an opening for the reception of the supporting spindle, the top block, a lever mounted in the bottom recess and having on one arm prongs for engag-

ing the insole, and on the other arm a bolt for engaging the top block, said lever projecting into line with the spindle opening of the last, and a spring for moving the lever, substantially as specified.

5. The combination of the recessed body of the last, with the prong-carrying lever adapted to said recess and having a rounded projection fitted to a seat in the recess, substantially as specified.

6. The combination of the recessed body of the last, the top block, the prong-carrying lever pivoted in the recess of the last, and the locking bolt having a hooked lower end engaging with the lever, substantially as specified.

7. The combination of the recessed body of the last with the lever pivoted in said recess, and a plate secured to one end of said lever, and having one or more projecting prongs for engaging with the insole, substantially as specified.

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

EDWARD D. WOODS.

Witnesses:

FRANK E. BECHTOLD,  
JOSEPH H. KLEIN.