

No. 670,452.

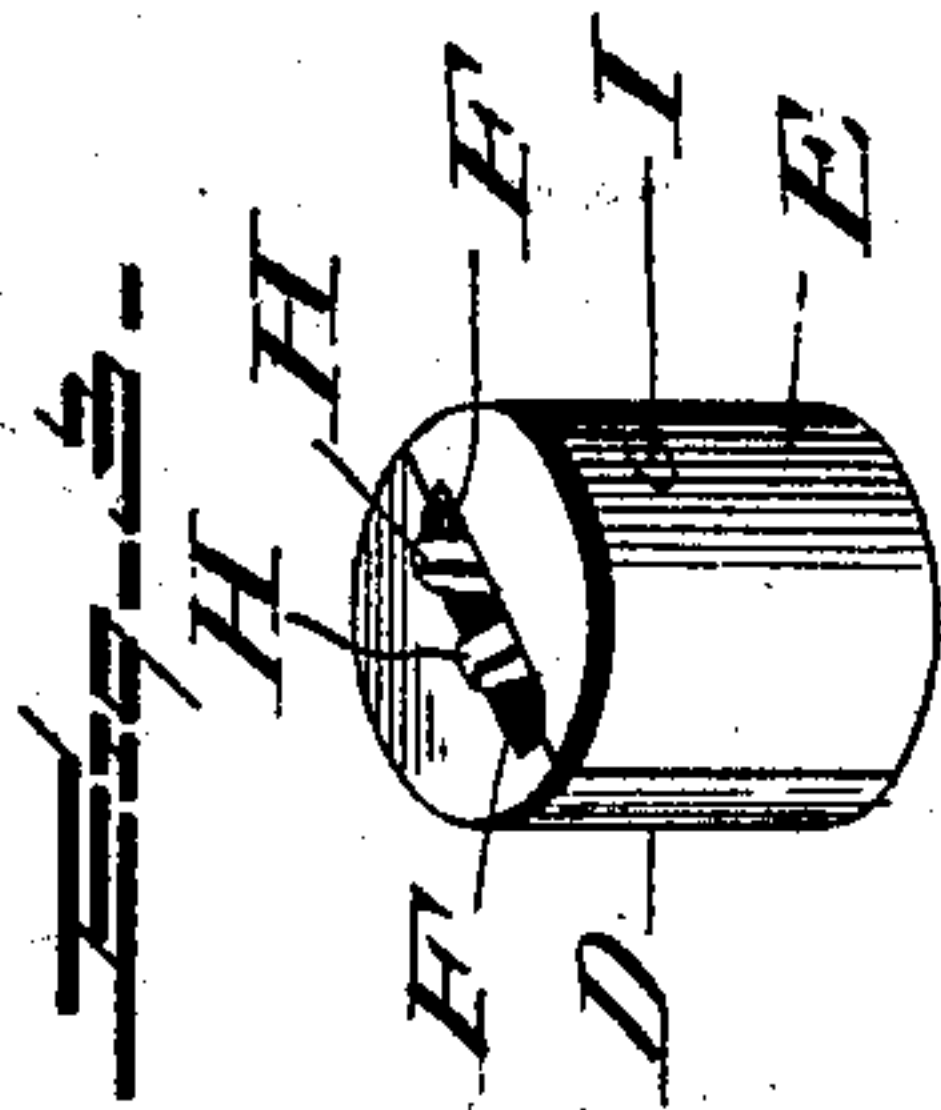
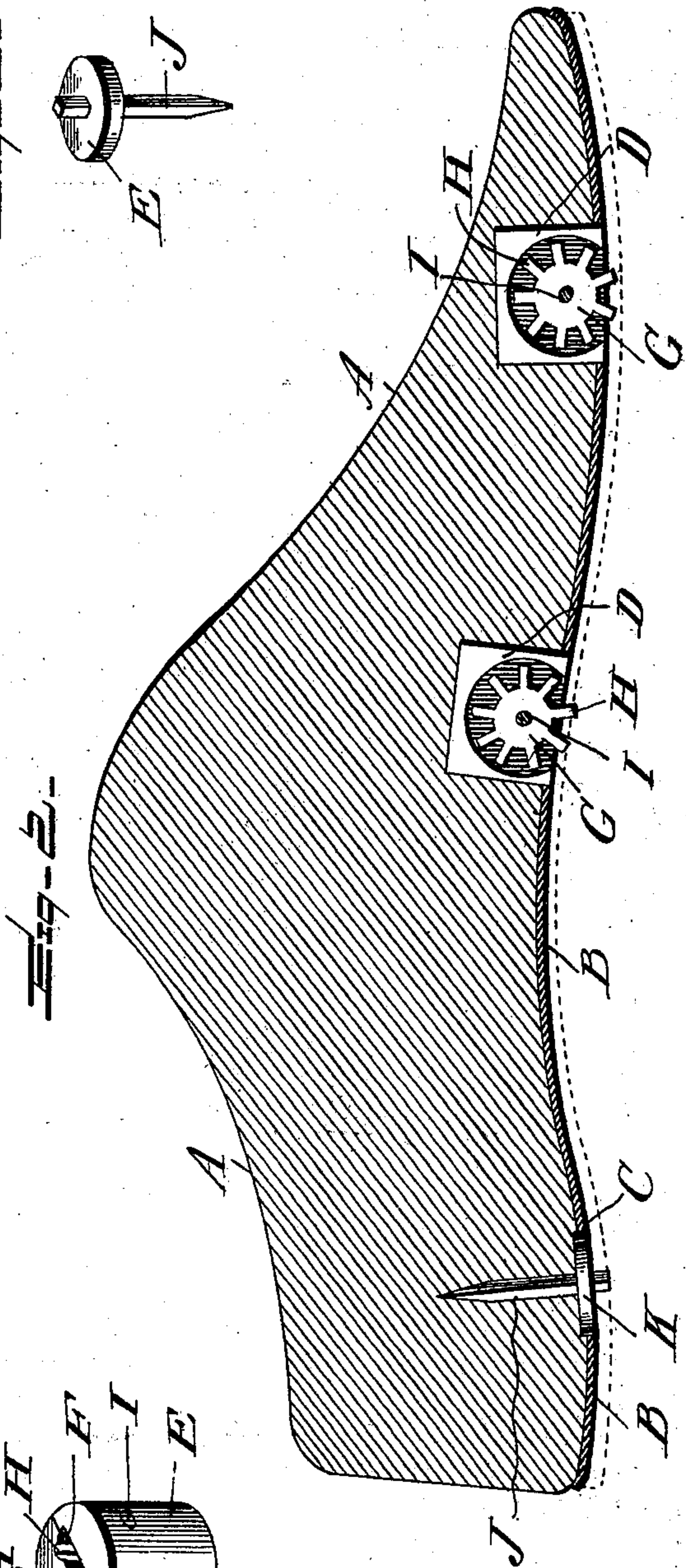
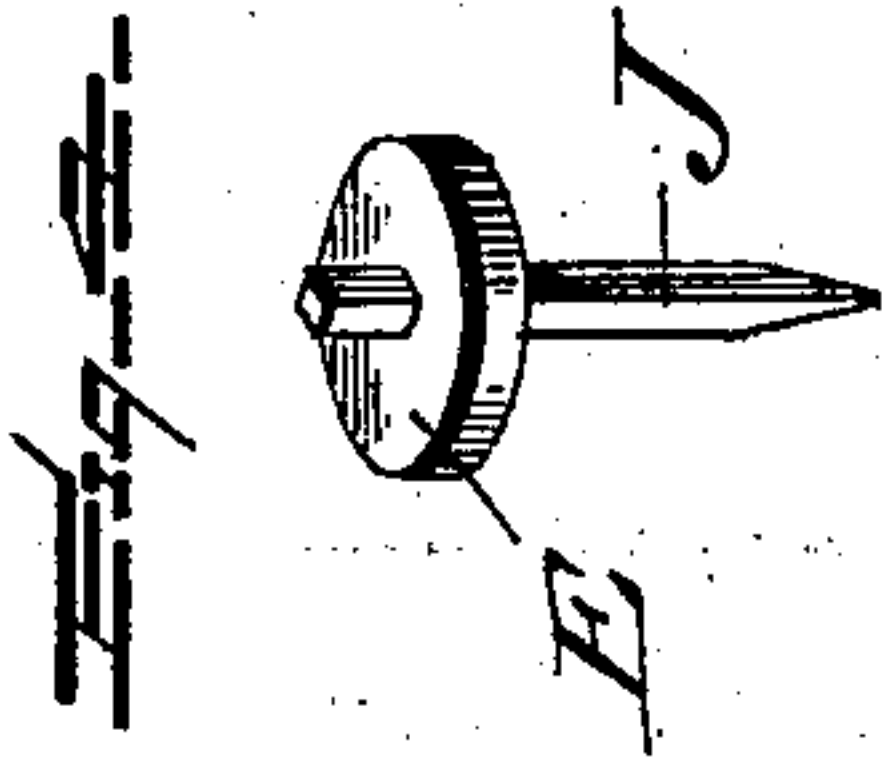
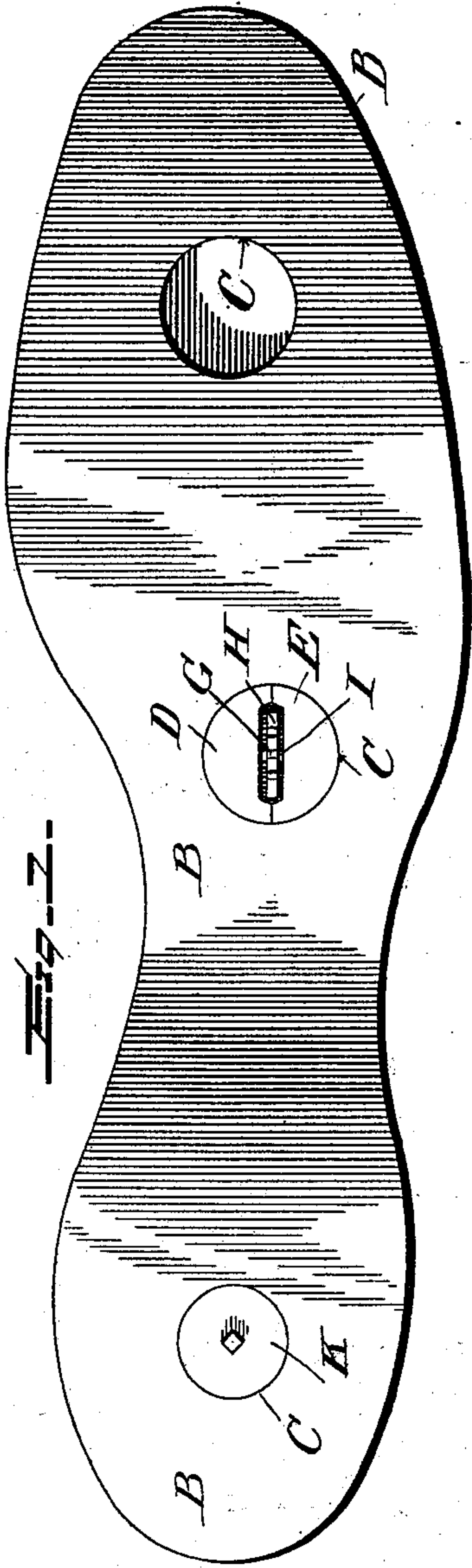
Patented Mar. 26, 1901.

L. LANOIS.

LAST.

(Application filed Sept. 8, 1900.)

(No Model.)



WITNESSES:

*L. C. Hills*  
*M. G. Lamb*

INVENTOR:

*Louis Lanais*

BY

*Meardha*

Attorneys



# UNITED STATES PATENT OFFICE.

LOUIS LANOIS, OF BROCKTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF  
TO JOSEPH F. ST. JOHN, OF SAME PLACE.

## LAST.

SPECIFICATION forming part of Letters Patent No. 670,452, dated March 26, 1901.

Application filed September 8, 1900. Serial No. 29,403. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS LANOIS, a citizen of the United States, residing at Brockton, in the county of Plymouth and State of Massachusetts, have invented a new and useful Shoe-Last, of which the following is a specification.

This invention relates to improvements in shoe-lasts; and the object is to provide a simple attachment which may be applied to lasts already in use for holding the inner sole in position without the necessity of using nails, which in a short time render the last unfit for use.

The inner soles are now secured to the last by nails, which soon render the last practically useless, as it is impossible to firmly secure the sole thereto after the last has been cut up by the continual driving of nails thereinto. This is especially true in that class of lasts which are provided with metallic bottoms in which holes are formed to receive the nails, as said nails, being repeatedly driven into the small space inclosed by the walls of the holes, soon cut the wood of the last so that the inner sole can no longer be securely attached thereto by the driving of nails into the holes. Various attempts have been made by the users of the lasts to increase the life of the latter—as, for instance, drilling said holes and plugging the same with wooden pegs or gum, the latter being very expensive; but all such attempts have been useless, and it has been found necessary to renew the lasts every year.

My invention is designed to obviate the difficulty above set forth and to increase the life of the last at a nominal cost by providing a very simple attachment, with which lasts may be equipped, whereby the soles may be attached to the last without the use of nails and at the same time the last readily removed from the shoe when the latter is finished.

The invention consists in the novel details of construction hereinafter fully set forth, particularly pointed out in the claims, and clearly illustrated by the accompanying drawings, in which—

Figure 1 is a bottom plan view of a last to which my invention is applied; Fig. 2, a vertical longitudinal sectional view of the same,

the insole being shown in dotted lines; Fig. 3, a perspective view of the securing means at the sole of the last removed from the latter, and Fig. 4 a similar view of the securing means at the heel of the last removed therefrom.

Referring now more particularly to the drawings, A designates a last having a metallic bottom plate B, formed with the holes C, through which the nails are driven into the wood of the last as the latter is now used, said holes being the toe, shank, and heel holes.

In applying my invention to the last above described I form holes in the wood of the last in line with and of the same size as the shank and toe holes of the metallic bottom plate B. In the holes thus formed I place separable socketed blocks, each formed of two members D and E, the sockets having their outer ends closed and flush with the outer surface of the iron bottom plate B. The closed outer end of the socket is slotted, as at F. Positioned in each socket and pivoted therein is a disk or wheel G, having about its periphery a series of teeth H, each of the shape of an ordinary heel-nail. The shaft I of the wheel is made integral with said wheel and has its ends supported by the block-sections, so that when the block is removed from the last the sections separate and the wheel becomes detached. Two of the teeth of each of the wheels normally project from the sockets, and these wheels constitute pivoted or rotary securing means for attaching the inner sole to the last.

A stationary securing member is provided at the heel, consisting of a pin J, formed adjacent to one end with an annular shoulder or plate K, of a size to fit in the opening formed in the bottom metallic plate B and of the same thickness, so that when said pin is driven into the wooden part of the last the shoulder will fill said opening in the plate B and be flush with the outer surface thereof and have a projection extending therefrom of the same shape as an ordinary heel-nail and constituting the stationary securing member, coacting with the pivoted or rotary securing members of the shank and toe to hold the inner sole in position on the last until the shoe is completed.



The inner sole is placed on the last in engagement with the teeth of the wheels and the stationary member at the heel, which latter holds the wheels from rotation until the  
5 last is drawn upon, the pull being directly from the pin, so that the wheels may revolve and release the now completed shoe.

Having thus fully described my invention, what I claim, and desire to secure by Letters  
10 Patent of the United States, is—

1. The combination with a shoe-last, of a stationary securing member positioned at the heel thereof, and a pivoted member at the toe thereof, said members coacting to detachably  
15 secure the insole on the last, substantially as described.

2. The combination with a shoe-last, of a stationary securing member carried by the bottom thereof, and a rotary member also  
20 carried by the bottom of said last, consisting of a disk formed about its periphery with a plurality of teeth, said members coacting to

detachably secure the insole on the last, substantially as described.

3. The combination with a last formed in  
25 its bottom with an opening, of a member comprising a socketed block positioned in said opening, a disk mounted in said socket and formed with teeth projecting from the socket, and a stationary member carried by the bot-  
30 tom of the last, said members coacting to detachably secure the insole on the last, substantially as described.

4. The combination with a last, of a pin positioned in the heel thereof, and a rotary disk  
35 mounted at the opposite end of the bottom of the last and formed with a tooth coacting with the pin to detachably secure the insole on the last, substantially as described.

LOUIS LANOIS.

Witnesses:

JOSEPH F. ST. JEAN,  
PHILLIP ST. JOHN.