

(No Model.)

2 Sheets—Sheet 1.

F. KEARNEY.
MANUFACTURE OF SHOES.

No. 264,459.

Patented Sept. 19, 1882.

Fig. 1.

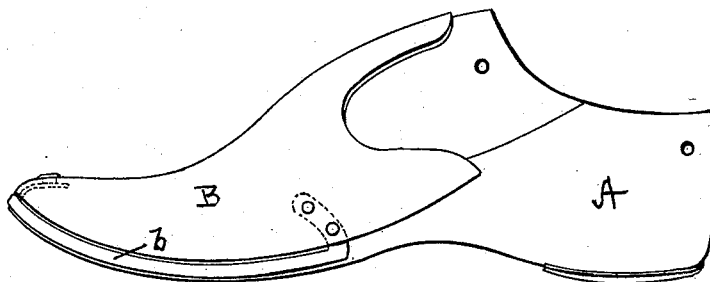


Fig. 2.

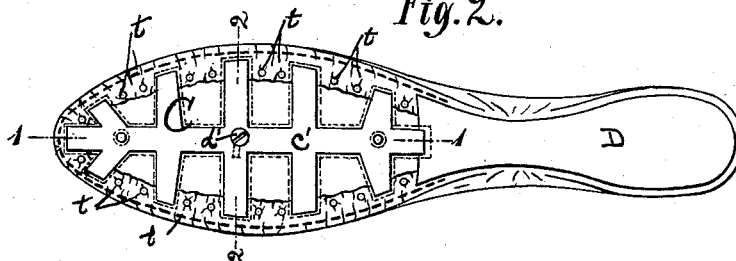


Fig. 3.

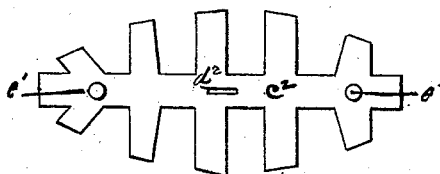


Fig. 6.



Fig. 4.

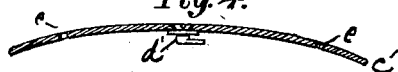


Fig. 7.

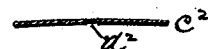
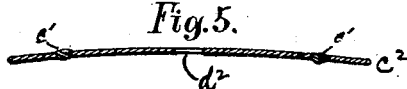


Fig. 5.



Attest.
S. A. Hosa.
H. P. Hosa.

Inventor:
Frank Kearney
by L. H. Fosea
attorney.

(No Model.)

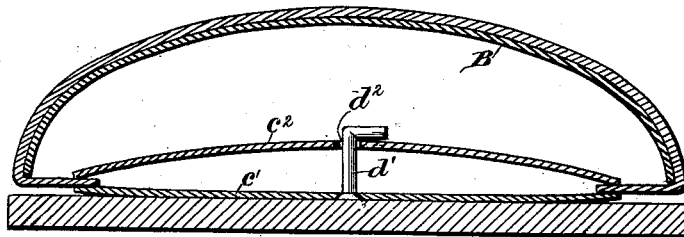
2 Sheets—Sheet 2.

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No. 264,459.

Patented Sept. 19, 1882.

Fig. 8.



Witnesses.

Robert Everett
A. H. Norris

Inventor:

Frank Kearney.

By *L. M. Hosen*

Atty.

UNITED STATES PATENT OFFICE.

FRANK KEARNEY, OF CINCINNATI, OHIO.

MANUFACTURE OF SHOES.

SPECIFICATION forming part of Letters Patent No. 264,459, dated September 19, 1882.

Application filed July 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, FRANK KEARNEY, a citizen of the United States, residing at Cincinnati, Ohio, have invented new and useful Improvements in Manufacture of Shoes, of which the following is a specification.

In uniting the soles and uppers of boots and shoes by machine-sewing it has been the usual custom to employ an inner sole to which the upper is basted, and to stitch the three edges. In other instances where no inner soles are employed it has been the usual practice to turn the shoe wrong side out and then sew the sole and upper, after which the shoe is turned back to its proper position.

My invention relates to improved mechanism to facilitate uniting the soles of boots or shoes directly to the uppers without the intervention of inner soles and without turning.

To this end my invention consists in the construction of apparatus and in the method of manufacture hereinafter more fully described.

In carrying out my invention, I employ a shell formed to the contour of the forward portion of the last for retaining the upper in position when the last is removed, and a sole-piece arranged as a clamp for holding the upper in position. These and all other parts of the apparatus employed are shown in the accompanying drawings, exhibiting a form of apparatus embodying my invention.

In these drawings, Figure 1 is a side elevation of the ordinary forming-last with the shell in position ready to receive the upper. Fig. 2 is a bottom view of the last, showing the instep-piece and upper-clamp in position. Fig. 3 is a detached plan view of one of the sole-pieces. Figs. 4 and 5 are longitudinal sections of the outer and inner sole pieces, respectively, on the line 1 1 of Fig. 2. Figs. 6 and 7 are cross-sections of the clamping-plates on the line 2 2 of Fig. 2; and Fig. 8 is a transverse sectional view, on an enlarged scale, with the parts in proper position for uniting the upper and the sole by stitching, showing the manner of holding the upper drawn around the edges of the shell-last.

A designates the ordinary wooden last employed in obtaining the proper shape for the shoe. To this I fit a shell, B, constructed preferably of sheet metal, forward of the instep

and following the contour of the last, and to this is preferably secured a smooth edge-piece, *b*, as shown, following the contour of the intended sole.

C designates a metallic skeleton sole-piece, consisting of two pieces, *c* and *c*², of similar shape and size, one of which is arched and the other flat, the two being centrally connected to clamp the edges of the upper by a swiveling latch, *d*, which passes through the said pieces, as hereinafter more fully explained, so that when the parts are placed together they constitute a clamp for the retention of the upper.

The latch-fastening consists of a conical-headed stud inserted through an opening in the plate, having its head flush with the surface of the plate and provided with an open slot for manipulation by a screw-driver, and having at its other end a lateral tongue, which, by the rotation of the stud, is turned across the slot and retains the plates together.

These parts constitute the apparatus in its simplest form used in carrying out my invention.

The method of procedure is as follows: The shell B, being placed upon the last A over its upper and forward portion, and the sole-piece *c*² being also placed in position on the sole of the last, (the wooden last being preferably recessed so as to admit them flush with the proper surface of the last and retain them in position,) the upper is placed in its proper position and lightly tacked to the wooden last between the radially-projecting arms of the sole-piece *c*², as shown at *t t*. In the present illustration of my invention I have shown an instep-piece, D, as an insole extending from the arch of the foot rearward beneath the heel. When this is used the corresponding portion of the last is faced with iron, and the instep-piece and upper fastened together in the usual manner by nails at this part. The upper being drawn over and tacked, as described, the second or arched sole-piece, *c*, is then placed over the first, *c*², with its arms in corresponding positions and pressed downward until the tongue of the latch *d* enters through the open slot, when the tongue is turned sidewise under the plate *c*², and the two plates thus secured together. By this means the two constitute a clamp, the elasticity of the plate *c* serving to

retain the upper screwed between the edges of the skeleton plates constituting the sole-piece C. For the purpose of temporarily holding the sole in position to be sewed, the plates c' c^2 are pierced, as shown at $e e' e'$, in corresponding positions. The apertures through the lower plate, c^2 , are filled with lead or other soft metal, and when the sole is laid on it is secured by tacks driven through the sole, passing through the apertures of the plate c' and into the lead or soft metal filling the corresponding apertures of the plate c^2 . When this is done the tacks t are removed and the wooden last withdrawn, leaving the shell B in position within the shoe to retain the upper as held by the clamp or sole-piece C. At this stage the shoe is ready for the machine, a clear margin being left adjacent to the edge-piece b around the sole-piece C for the line of stitches, as indicated by dotted lines. The shoe being placed upon the machine, the horn of the latter is guided by the edge-piece b , and when the operation of sewing is completed the hand is inserted in the shoe and the tongue of the fastening d' turned so as to be in line with its slot, whereupon the elasticity of the plate c' causes it to reassume its original arched position, and in doing so the fastening is released. The plates c' c^2 and the shell B are then removed from the shoe, leaving it sewed and ready for the finishing operation.

It will be obvious that the shell B and the edge-piece b may be made to extend completely around the shoe at the heel, and the sole-piece C also lengthened so as to cover the sole. By this alteration the shoe may be sewed without intervention of the instep-piece D; but the latter being ordinarily required, the former construction will be usually employed.

It will be obvious that other devices for securing the upper may be employed in lieu of the clamp C without departing from the spirit

of my invention; but the means described are simple and efficient and by me preferred.

I am aware that the soles of boots and shoes have heretofore been sewed to the uppers without an inner sole and without turning, and such, broadly, is not my invention; but

What I claim, and desire to secure by Letters Patent, is—

1. In combination with the shell or hollow last B, the clamp C, for securing the upper in place and adapted to be attached to the sole, whereby the sole and upper may be sewed without the intervention of an inner sole and without turning, substantially as described.

2. In combination with a hollow last or shell, B, the clamp C, consisting of the members c' c^2 and a fastening device, substantially as set forth.

3. In combination with the hollow last or shell B, provided with the edge-piece b , the clamp C, consisting of the members c' c^2 and fastening device d' , substantially as described, and for the purpose specified.

4. In combination with the shell-last B, the sole-piece C, consisting of the members c' c^2 , provided with apertures $e e'$, those of the member c^2 being filled with lead or other soft metal, substantially as set forth.

5. The combination, with a shell-last, of a sole-piece or clamp for holding the upper down over the edges of the shell-last, said last and sole piece or clamp being arranged to provide a continuous space between their adjacent edges free for the stitching operation, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRANK KEARNEY.

Witnesses:

L. M. HOSEA,
F. P. HOSEA.