## W. B. ARNOLD.

MANUFACTURE OF HEELS FOR BOOTS AND SHOES.
No. 190,113. Patented May 1, 1877.

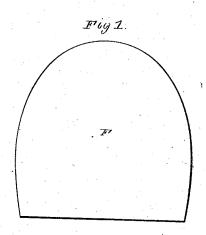


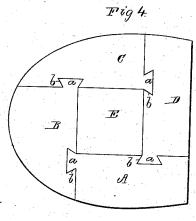
Fig.2.

F C D

F A

F A

Frig.3.  $\begin{array}{c|cccc}
 & F \\
 & D & A \\
 & A & D & D \\
 & A & D &$ 



Inventor.

William B. Arnold.

by his attorney.

R. M. Eddy.

Mitnesses. S. W. Piper, L. M. Miller

## UNITED STATES PATENT OFFICE

WILLIAM B. ARNOLD, OF NORTH ABINGTON, MASSACHUSETTS.

## IMPROVEMENT IN THE MANUFACTURE OF HEELS FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. 190,113, dated May 1, 1877; application filed February 20, 1877.

To all whom it may concern:

Be it known that I, WILLIAM B. ARNOLD, of North Abington, of the county of Plymouth and State of Massachusetts, have invented a new and useful Improvement in the Manufacture of Heels of Boots or Shoes; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which-

Figure 1 is a top view, Fig. 2 a side elevation, and Fig. 3 a front-end view, of a heel made in accordance with my invention. Fig. 4 is a top view of one of its composite or sectional and dovetailed lifts.

The invention has for its object not only the utilizing of scraps or small pieces of leather, but their combination in a manner to prevent them from spreading apart at their joints

when constituting a heel-lift.

In carrying out my invention I form each peripheral piece of a lift with a dovetail and a dovetail notch, the dovetail being projected from one end, and the notch being formed in one of the longer sides of the piece. The lift I compose of a series of such pieces and a fitting piece or pieces arranged between and encompassed by them, such being as shown in Fig. 4, in which A B C D are the peripheral pieces, and E the filling-piece, the latter, as shown, being square. Each of the parts A B C D has a dovetail, a, and a dovetail notch, b, arranged in it, as shown, in order that when the several pieces are connected together the dovetail of one may fit into the notch of the succeeding one. The joint at each dovetail is at right angles to the piece opposite to it—as, for instance, the joint between the pieces A B

is perpendicular to the joint between the pieces B and C. This enables one composite heel-lift, when turned over and laid on one another, to break joints therewith, as shown in Figs. 2 and 3.

A set of such composite heel-lifts placed one on the other, and between two single top and bottom lifts, F G, serve, with the latter, to compose a heel, the whole being held together by one or more nails driven into them, or by cement between their surfaces.

My invention is also applicable to the manu-

facture of sole-taps.

I would remark that, for the purpose of connecting two or more small pieces of leather or other material, it has been customary to accomplish such by one or more dovetail tenons and notches. I therefore do not claim such: but

I claim-

1. As an improved manufacture, a heel-lift composed of a series of peripheral pieces dovetailed together, and a filling arranged be-tween or with them, all substantially as shown and described.

2. As an improved manufacture, a heel made as specified-viz., with each of its outside lifts of a single piece of material, and each of its intermediate lifts composed of a series of peripheral pieces dovetailed together, and a filling, as explained, and arranged to break joints with the next adjacent composite lift or lifts, all as set forth.

WM. B. ARNOLD.

Witnesses:

R. H. EDDY,

J. R. Snow.