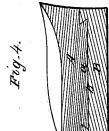
## Hayward & Stone,

## Doot Heel.

No. 48,682,

Patented July 11. 1865.



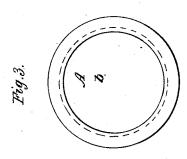


Fig. 1.

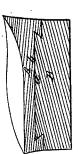
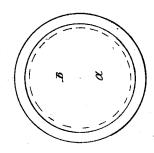


Fig.2.



Witnesses.

Frederick Euris & Stale for

F.D. Hayward and P. Stone.

Ry Their attorney

## UNITED STATES PATENT OFFICE.

FRANCIS D. HAYWARD, OF MALDEN, AND PASCHAL STONE, OF CHARLES-TOWN, MASSACHUSETTS.

## IMPROVED BOOT-HEEL.

Specification forming part of Letters Patent No. 48,682, dated July 11, 1865.

To all whom it may concern:

Beit known that we, FRANCIS D. HAYWARD, of Malden, and PASCHAL STONE, of Charlestown, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Heels for Boots or Shoes; and we 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 transverse section of a heel provided with our invention. Fig. 2 is a top view of the lower portion of such heel; Fig. 3, an under-side view of the upper portion. Fig. 4 is a transverse section of a heel exhibiting the invention in a modified form.

The object of our invention is not only to enable the wearing-lift or tread portion of a heel to be readily removed from and replaced and fixed upon the remainder of the heel, but to allow the said wearing or tread lift or portion to be revolved on the rest of the heel, as occasion may require, in order to equalize the wear on such tread lift or portion. For this purpose we make the heel in two parts, and either or both of them may be, in part or in whole, of india-rubber or an elastic composition, in which caoutchouc may constitute a constituent; and, furthermore, we form such parts with a dovetail connection, one or both parts of which - that is to say, the dovetail and its socket, or the material immediately next to and around the said socket—should be elastic, in order that the parts of the connection may be sprung together or apart from one another, as circumstances may require.

In the drawings, A is that part of the heel which is fastened to and projects from the sole of the shoe or boot, and B is the movable and rotary portion, which is secured to the part A by an elastic dovetail connection.

The dovetail is shown at a and its socket at b. The dovetail may project from the post B, and the socket be made in the part A, in manner as shown in Fig. 1; or the dovetail may extend from the part A and into the socket made.

in the part B, as shown in Fig. 4, both dovetail and socket being circular in horizontal section, in order that the part B may be revolved while in connection with the part A. The dovetail a, or the part containing the socket b, or both, should be of an elastic material, in order that the dovetail may be sprung into and out of the socket.

The dovetail and socket may be polygonal in section, so long as the section is a regular polygon, in which case the part B, although not capable of being revolved while in connection with the part A, may be removed there-from and be turned more or less, and afterward be replaced on the part A, the same being to bring a different portion of the surface of the tread into wear, in order that the wear on the tread may be dovetailed over it, or the tread-lift be prevented from always wearing down in one place. We prefer, however, to make the dovetail connection circular, as well as elastic, in either the dovetail or its socket, or both. When made as above described it will be an easy matter to either separate the dovetail from or insert it within its socket, the elasticity of the one or the other, or both, as the case may be, serving to hold them in connection under ordinary circumstances.

We do not claim a heel composed of two parts connected by a dovetail and its socket; but

We claim-

The improved heel or parts A B, as made with the dovetail connection, elastic, as described, or with the circular or polygonal elastic dovetail connection, as explained, the whole being so that the tread part B may be either revolved or adjusted relatively to the part A, substantially as and for the purposes specified.

FRANCIS D. HAYWARD, PASCHAL STONE.

Witnesses:

R. H. EDDY, F. P. HALE, Jr.