No. 663,270

Patented Dec. 4, 1900.

M. HALLANAN.

BOOT OR SHOE.

(Application filed Nov. 17, 1899.)

(No Model.)

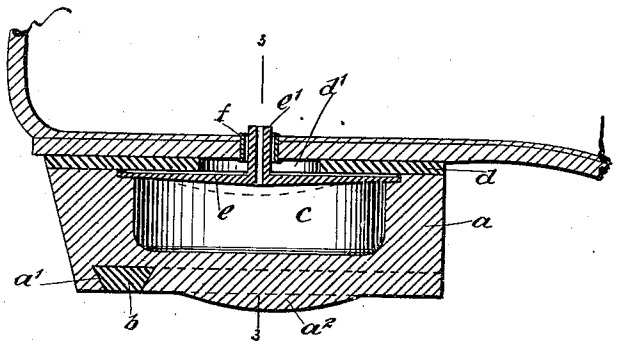


Fig. 1

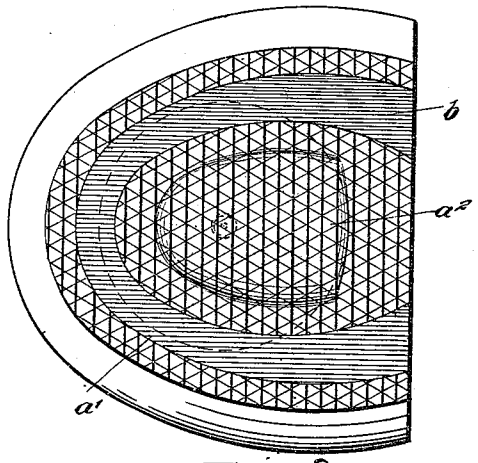


Fig 2

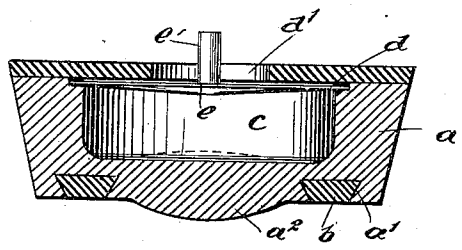


Fig. 3

WITNESSES:

John A. Brighton

J. B. Owens

INVENTOR

Michael Hallanan

BY

Munn & Co.

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MICHAEL HALLANAN, OF NEW YORK, N. Y.

BOOT OR SHOE.

SPECIFICATION forming part of Letters Patent No. 663,270, dated December 4, 1900.

Application filed November 17, 1899. Serial No. 737,320. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL HALLANAN, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented new and useful Improvements in Boots or Shoes, of which the following is a full, clear, and exact description.

The purpose of this invention is to provide, first, a yielding treading-surface for boots, shoes, and other footwear, thus to relieve the user of the jar or concussion incident to walking, and, second, to provide means for ventilating the interior of the boot or shoe.

My invention comprises, therefore, a member forming a yielding tread—for example, a rubber heel—which is so constructed as not only to yield to the weight of the wearer, but also at each step to expel a certain volume of the air from the shoe and draw fresh air into the shoe around its top.

This specification is the disclosure of one form of my invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional view of the invention. Fig. 2 is a bottom plan view thereof, and Fig. 3 is a cross-section on the line 3 3 of Fig. 1.

I have here shown my invention as constituting the heel of a boot or shoe, and it comprises a heel proper, *a*, formed of rubber. The under surface of this heel is provided with an undercut groove *a'*, which extends around the sides and rear of the heel and which has its ends run into the front edge of the heel, as shown. In this groove is secured in any suitable way a strip of leather *b*. As shown in the drawings, this strip is dovetailed in cross-section, so that it may be sprung into the groove to lie securely therein. Other means of fastening the strip may be resorted to, if so desired. For example, the strip may be cemented in place.

The heel *a* is formed with a cavity *c* therein, and beneath this cavity the bottom of the heel is formed with a protuberance or enlargement a^2, which projects below the main portion of the bottom of the heel and is adapted first to engage the ground, thus pressing the bottom of the heel upward and contracting the cavity in the manner indicated by dotted lines in Fig. 3, which thus serves to force a certain volume of air out of the cavity. The top of the cavity *c* of the heel of the shoe is open, and I have secured (preferably by cementing) a leather top *d* to the top of the heel, which top *d* is provided with a central opening *d'*, as shown. The leather top or plate *d* is in turn cemented to the shoe, as shown in Fig. 1, thus securing the heel in place. In practice, therefore, the heel is constructed with the top secured in place, and the heel may be fastened readily to the shoe through the medium of the leather top.

For assisting in maintaining a circulation of air within the shoe I provide a diaphragm *e*, constructed, preferably, of rubber and situated in the upper portion of the chamber *c*, directly beneath the leather top or plate *d*, thus forming the top wall of the cavity *c*. This diaphragm *e* has a nipple *e'* formed thereon and communicating with the interior of the chamber *c*, the nipple extending upwardly through the opening *d'* in the heel-top *d* and also through a suitably-formed opening *f* in the sole of the shoe. The resiliency of the diaphragm *e* serves normally to maintain the nipple in the raised position shown in Fig. 1; but when the foot of the wearer is pressed down on the nipple the diaphragm will be flexed inward, as indicated by the dotted lines in said figure, and it will be seen that by this operation the air within the chamber is compressed and forced out into the shoe. Therefore it will be seen that I provide a tread which is not only yielding, but which is also so constructed as to cause a circulation of air in the shoe or other article of footwear to which it may be applied, thus keeping the foot cool. As a person walks the enlargement a^2 will compress the bottom wall of the cavity or chamber *c*, and this of itself will force the air upward through the nipple *e'*, and also the nipple *e'* will be forced downward, and the diaphragm *e* will be caused to move toward the lower wall of the chamber, thus assisting such lower wall in its work.

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

1. A tread for footwear, the tread having a cavity therein, a yielding top wall or diaphragm covering the cavity, and a nipple carried by the diaphragm and communicating with the cavity, the nipple projecting upward into the article of footwear to be engaged by the foot, whereby to move the diaphragm, for the purpose specified.

2. A tread for articles of footwear, the tread being formed of yielding or cushion-like rubber and having a protuberance or enlargement formed on its under side at approximately its center, and a strip of leather embedded in the tread and extending around the protuberance to engage the ground as the protuberance yields inwardly.

3. A tread for footwear, having a cavity therein, and a yielding top wall or diaphragm covering the cavity, a portion of the diaphragm extending upward to be engaged by the foot of the wearer, and the cavity in the tread having communication with the interior of the shoe, as specified.

4. A tread for footwear, comprising a heel with a cavity therein, a yielding top wall or diaphragm carried on top of the heel and covering the cavity, the diaphragm having an upwardly-extending nipple projecting into the shoe, and a heel-tip laid over the top wall or diaphragm and secured to the heel and formed with a central opening through which the nipple of the diaphragm is passed.

MICHAEL HALLANAN.

Witnesses:
Q. B. OWENS,
J. L. MCAULIFFE.