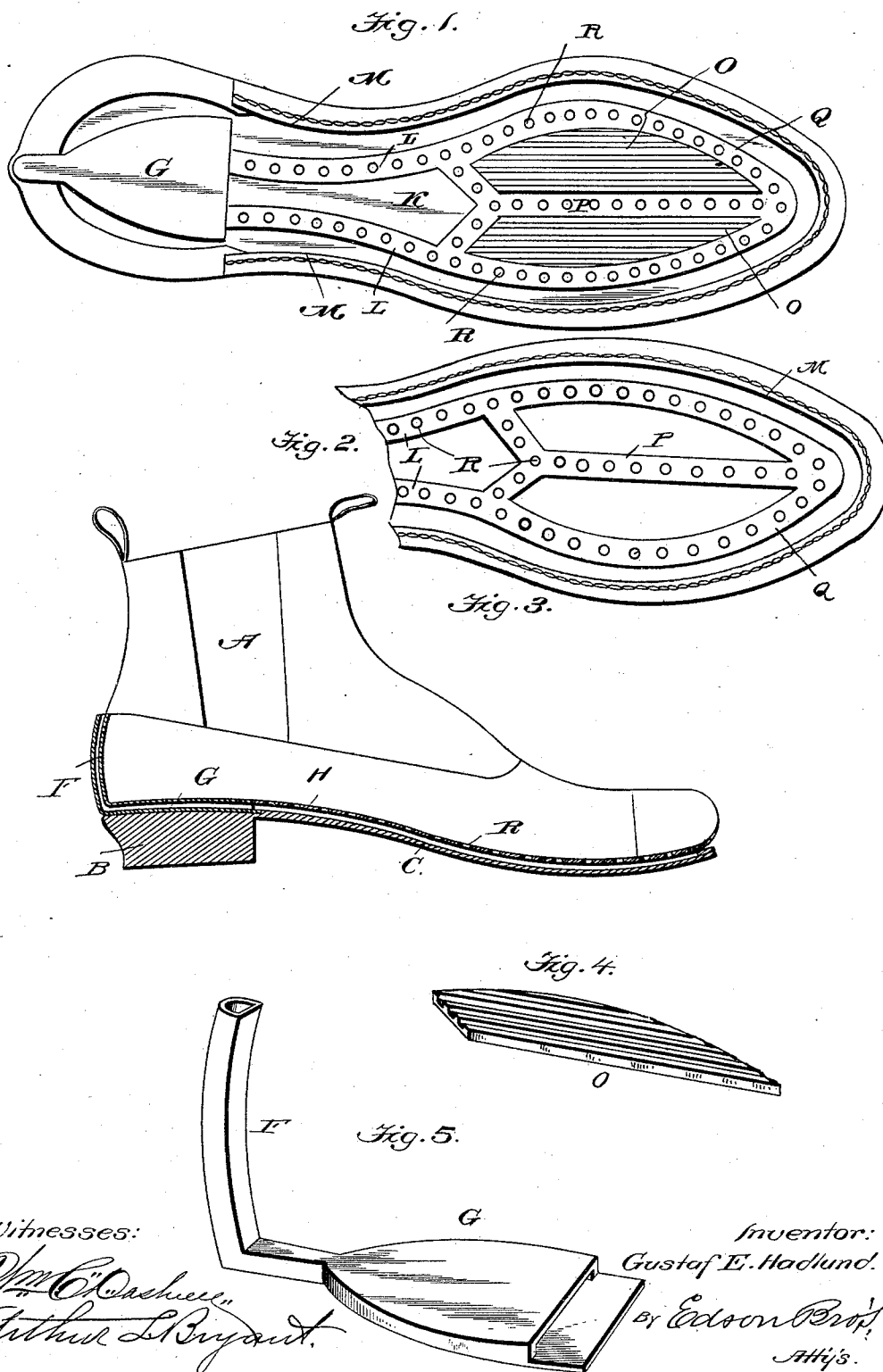


(No Model.)

G. E. HADLUND.
BOOT OR SHOE.

No. 475,858.

Patented May 31, 1892.



Witnesses:

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UNITED STATES PATENT OFFICE.

GUSTAF E. HADLUND, OF PORTLAND, OREGON.

BOOT OR SHOE.

SPECIFICATION forming part of Letters Patent No. 475,858, dated May 31, 1892.

Application filed May 5, 1891. Serial No. 391,699. (No model.)

To all whom it may concern:

Be it known that I, GUSTAF E. HADLUND, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in the Manufacture of Boots or Shoes by Means of a Combined Air-Tube and Counter-Brace; and I hereby declare that the following is a full, clear, and exact description of my invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in boots or shoes; and the objects are, first, to provide for the escape of heat from the shoe caused by the foot, and thus ventilate the sole without destroying the flexibility or injuring the appearance of the boot or shoe, and, secondly, to provide a shoe or boot which will be quite lighter and the soles of which will be drier than boots or shoes made in the ordinary manner.

With these ends in view my invention consists in the peculiar construction and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a bottom plan view of a shoe having its lower or outer sole removed constructed in accordance with my invention. Fig. 2 is a similar view of the sole of the shoe, the piece K and pads O being removed. Fig. 3 is a vertical sectional view of the shoe. Fig. 4 is a detail view of one of the corrugated pads, and Fig. 5 is a detached detail view of the tube or conduit which provides for the passage of air.

Like letters of reference denote corresponding parts in the several figures of the drawings, referring to which—

A designates a shoe of any desired pattern and size, and B and C, respectively, the heel and sole thereof.

E designates an angular or bent pipe or conduit, which is arranged within the shoe at the rear or heel end thereof. The lower angular end or portion of the tube or conduit F, which lies above the heel B, is flattened and enlarged to form a funnel-shaped mouthpiece G, and said tube extends rearwardly a short distance from the mouthpiece G and then upwardly through the counter of the shoe, the outer end of said tube being on a line with

the vamp or seam at the top of the counter. The enlarged portion G of the tube F extends a short distance beyond the forward edge of the heel B, as shown in Fig. 2. By reference to Fig. 3 it will be seen that the inner face of the upright portion of the tube or conduit F is made flat and that such upright portion is curved slightly in the direction of its length to conform to the shape of the heel. The tube F is preferably made of metal or other suitable material, and besides serving to conduct air into the interior of the shoe also serves to strengthen the counter of the shoe and prevent the same from being crushed by wear or bent to either side by reason of the uneven tread of the person wearing the shoe.

To the inner sole H of the shoe, in advance of the enlarged inner end G of the tube F, is secured a strip K of leather or other suitable material. This piece K extends from the forward enlarged end of the tube F to a point slightly beyond or about the middle of the shoe; but it does not extend the whole width of the shoe, so that channels or passages L are formed between the sides of said strip and the welt M of the shoe, the lower or outer sole C forming the bottom of the grooves or channels.

Between the outer sole C and the inner sole L, under the ball of the foot, I arrange parallel corrugated pads or cushions O, made of rubber or other suitable elastic material. The corrugated elastic pads O are separated by a central space P, which, when the outer sole is in position, forms an air channel or passage Q, which connects the two channels or passages L. The passages L, P, and Q communicate with the interior of the shoe through a series of perforations or punctures R, so that air can pass through the tube F into the interior of the shoe.

The operation of my invention is as follows: As the wearer brings his weight to bear on the ball of the foot the air between the corrugations on the elastic pads O, which has become heated from the heat of the foot, is forced out through the passages Q P L and up through the tube F. Cool air from the outside passes down said tube into the passages arranged between the soles of the shoe and into all portions of the shoe through the perforations or punctures R. It will thus be

seen that I have provided a shoe, the interior of which will be kept cool and the appearance and flexibility of which will not be destroyed. The sole is not weakened in my
5 construction by having channels or grooves cut therein, and I am also enabled to materially decrease the weight of the shoe and at the same time strengthen it.

I am aware that changes in the form and
10 proportion of parts and details of construction of the devices herein shown and described as an embodiment of my invention can be made without departing from the spirit or sacrificing the advantages thereof, and I there-
15 fore reserve the right to make such changes as fairly fall within the scope of my invention.

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

20 In a boot or shoe, the combination, with a

perforated insole, of the elastic corrugated pads O O, arranged between the soles and spaced apart to form a central longitudinal passage P between themselves, said pads being arranged relatively to the sides of the
25 shoe to form the passages Q, extending around the toe, the strip K, arranged between the soles in rear of the elastic pads and separated from the sides of the boot or shoe to form
30 passages L, which communicate with the passages P Q, and an air-tube extending through the counter of the boot or shoe and having its inner end G enlarged, flattened, and terminating at a point in rear of the strip K, substantially as described.

GUSTAF E. HADLUND.

Witnesses:

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