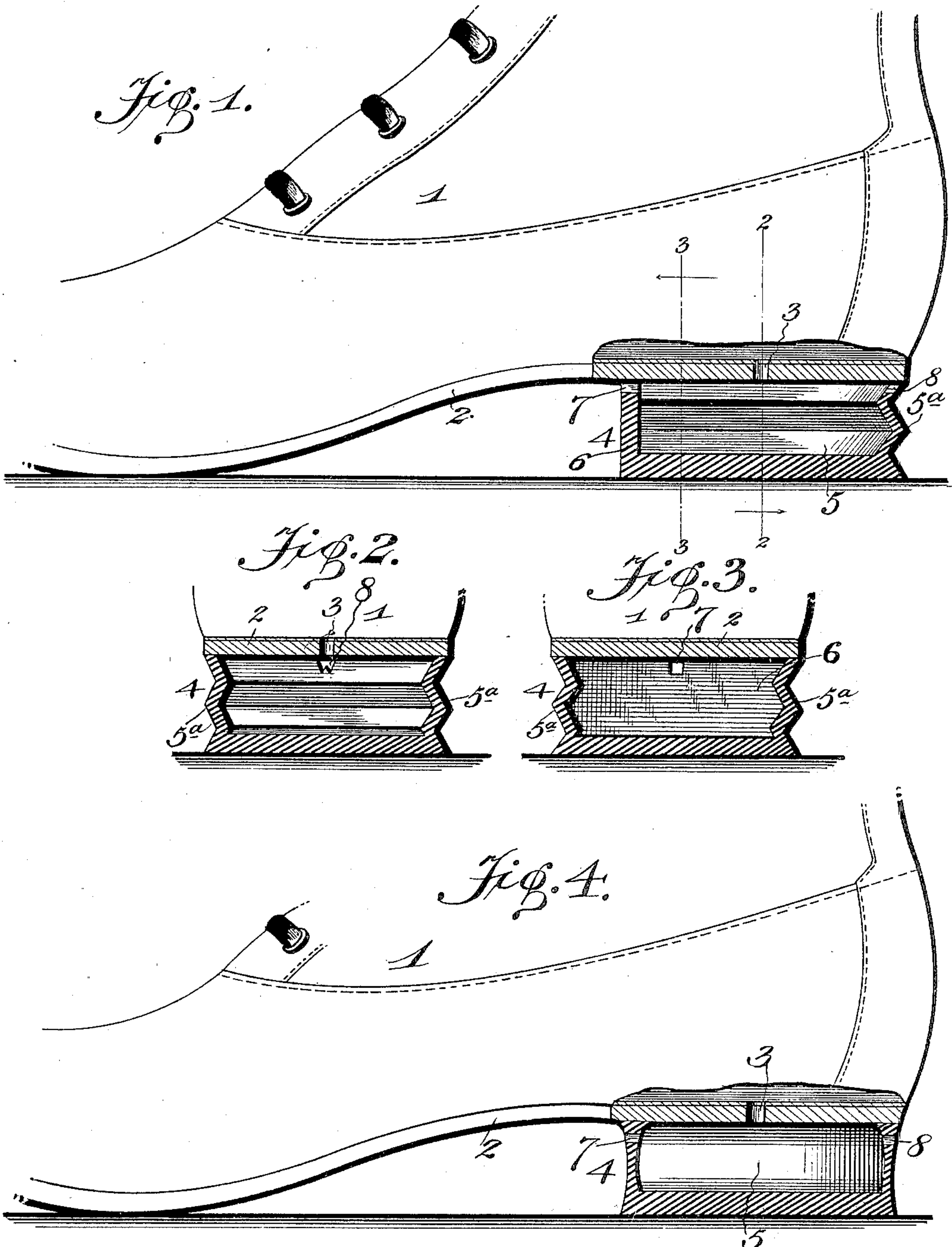


No. 622,673.

Patented Apr. 11, 1899.

G. FERRATA.
VENTILATED SHOE HEEL.
(Application filed Oct. 19, 1898.)

(No Model.)



Witnesses
A. Roy Appleman
S. T. Holchauer
By His Attorneys.
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UNITED STATES PATENT OFFICE.

GIUSEPPE FERRATA, OF GREENVILLE, SOUTH CAROLINA.

VENTILATED SHOE-HEEL.

SPECIFICATION forming part of Letters Patent No. 622,673, dated April 11, 1899.

Application filed October 19, 1898. Serial No. 693,984. (No model.)

To all whom it may concern:

Be it known that I, GIUSEPPE FERRATA, a citizen of the United States, residing at Greenville, in the county of Greenville and State of South Carolina, have invented a new and useful Ventilated Shoe-Heel, of which the following is a specification.

This invention relates to an improved ventilated shoe-heel designed for use in connection with the heel portion of an ordinary shoe and having for its object the provision of a heel that will freely give or yield to the weight of the wearer during the act of walking and will thereby overcome the usual jarring incident to walking.

A further object of the invention is to provide simple and efficient means for automatically forcing air into the interior of the shoe during the act of walking, whereby the shoe will be ventilated and undue perspiration of the foot obviated.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a sectional view of the heel portion of an ordinary boot or shoe equipped with a cushion ventilated heel constructed in accordance with the present invention. Fig. 2 is a transverse sectional view on the line 2 2 of Fig. 1. Fig. 3 is a similar view on the line 3 3 of Fig. 1. Fig. 4 is a view similar to Fig. 1, showing a modification of the heel in which the bellows folds are dispensed with.

Referring to the accompanying drawings, the numeral 1 designates an ordinary boot or shoe having the usual sole 2 and provided in the heel portion thereof with a ventilating-opening 3, which communicates with the interior of the boot or shoe and also with the interior of the cushion-heel 4, forming the subject-matter of this application. The cushion-heel 4 is attached to the heel portion of the boot or shoe by any suitable means known to those skilled in the art and essentially consists of a hollow compressible body preferably formed in a single piece and having

its interior chamber or cavity 5 in direct communication with the ventilating-opening 3 in the heel portion of the boot or shoe.

The hollow compressible body of the cushion-heel is constructed sufficiently thin and of sufficient elasticity, so that the heel will readily collapse and then expand again to its normal shape during the act of walking; but to facilitate the bellows action of the compressible heel-body the latter preferably has its circular wall provided with continuous bellows folds 5^a, extending horizontally and annularly around the heel, and by reason of these bellows folds it will be obvious that a complete bellows action will be automatically effected as the wearer places the heel on the ground and then lifts the same up, as naturally occurs in the act of walking.

To provide for the circulation of air into the heel and from thence into the boot or shoe, the heel-body is provided, preferably at the top edges of its inner end wall 6 and circular wall at diametrically opposite points, with the air-circulating openings 7 and 8, respectively. When the heel collapses with the weight of the wearer, the walls of the compressible body will collapse sufficiently to close or partly close the circulating-openings 7, and thereby compressing the air within the heel and forcing the same within the boot or shoe through the opening 3. As the heel expands again to its normal shape the openings 7 and 8 open up and again permit a free circulation of air.

While the bellows folds facilitate the bellows action of the heel, still these folds may be dispensed with by making the walls of the heel-body thinner than the top and bottom portions and of sufficient elasticity, so that the collapsing and expansion of the heel will occur. In this modification of the invention, which is shown in Fig. 4 of the drawings, it is preferable that the circulating-openings 7 and 8 be formed in the opposite walls of the heel below the top edges, so that the same will be closed or partly closed by the compression and inward folding of the thin walls.

Other modifications will suggest themselves to those skilled in the art, and it will be understood that any changes in the form, proportion, and the minor details of construction

tion may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination with a boot or shoe having a ventilating-opening in its heel portion, of a hollow compressible heel having a circulating-opening in its wall adapted to be closed or partially closed by the compression of the heel, substantially as set forth.

2. The combination with a boot or shoe having a ventilating-opening in its heel portion, of a cushion-heel formed of a hollow compressible rubber body having a circulating-opening in its wall, substantially as set forth.

3. The combination with a boot or shoe having a ventilating-opening in its heel portion,

of a cushion-heel formed of a hollow compressible body having annular bellows folds, and a circulating-opening formed directly in its wall, substantially as set forth.

4. The combination with a boot or shoe having a ventilating-opening in its heel portion, of a cushion-heel formed of a hollow compressible body having annular bellows folds and oppositely-located circulating-openings in its top edges, said openings being adapted to be closed or partly closed by the compression of the heel, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GIUSEPPE FERRATA.

Witnesses:

OSCAR HODGES,
T. E. WATSON.