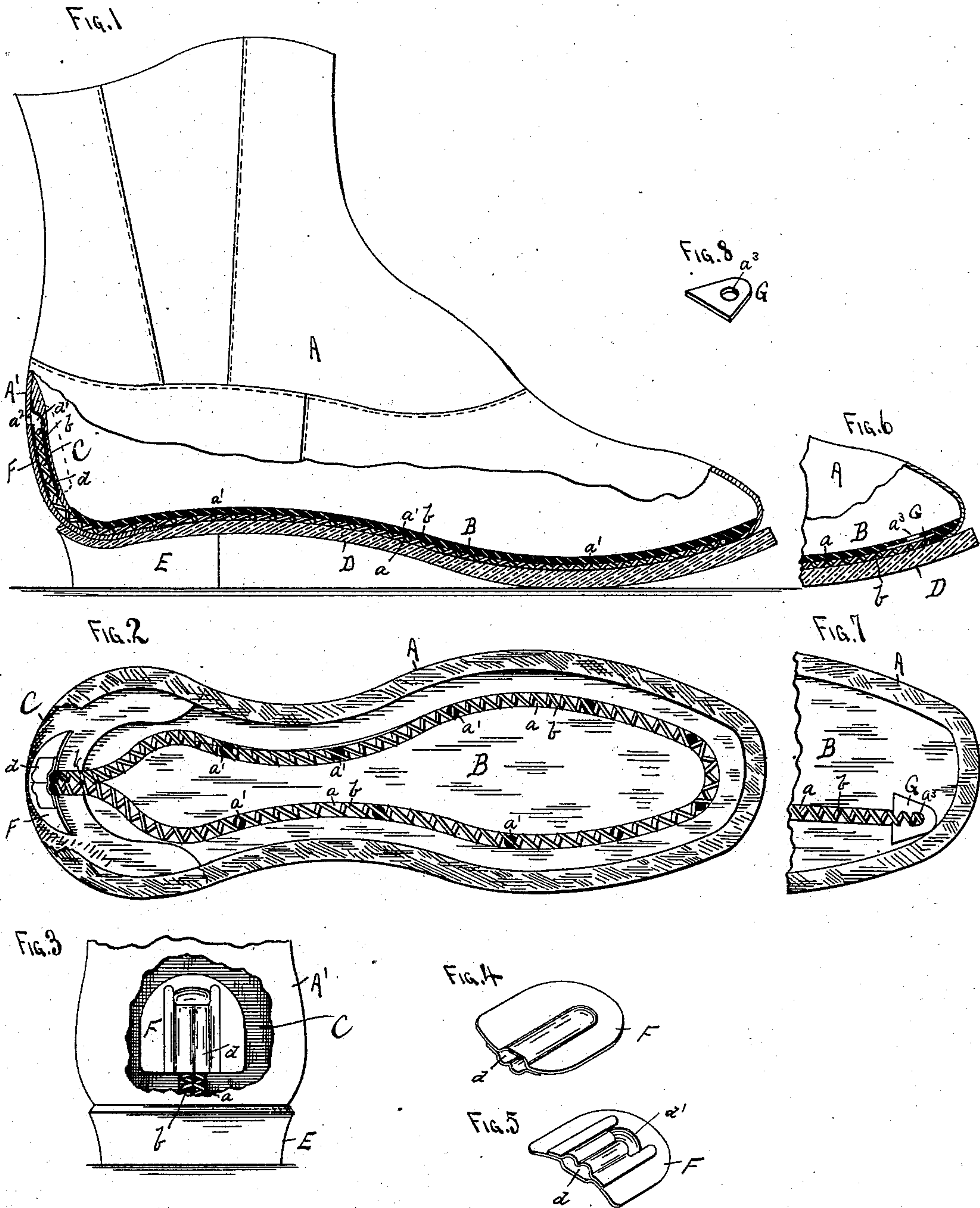


(No Model.)

H. A. STEVENS.
VENTILATED BOOT OR SHOE.

No. 381,962.

Patented May 1, 1888.



WITNESSES.

A. D. Davison
H. A. Webster.

Henry A. Stevens,
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UNITED STATES PATENT OFFICE.

HENRY A. STEVENS, OF LAKE CITY, MINNESOTA.

VENTILATED BOOT OR SHOE.

SPECIFICATION forming part of Letters Patent No. 381,962, dated May 1, 1888.

Application filed November 22, 1887. Serial No. 255,866. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. STEVENS, a citizen of the United States, residing at Lake City, in the county of Wabasha and State of Minnesota, have invented certain new and useful Improvements in Ventilating Boots or Shoes, of which the following is a specification.

This invention relates to the manner of constructing and arranging a ventilating tube or conduit within a sole of a boot or shoe, so as to be invisible from the outside and not interfere with its wearing qualities, as hereinafter shown and described, and specifically pointed out in the claims.

The invention may be applied to a boot or shoe or any other form of foot-covering either of rubber, leather, or other material; but for the purpose of illustration I have shown it in the drawings applied to an ordinary shoe.

Figure 1 represents a sectional side view of the shoe with my improved ventilating attachment arranged therein. Fig. 2 is a plan view of a shoe partially constructed, showing the manner of arranging the ventilating-tube therein. Fig. 3 is a rear view of the heel portion, illustrating the manner of arranging the plate and spiral tubes. Figs. 4 and 5 are perspective views of the heel-plate detached. Fig. 6 is a sectional side view, and Fig. 7 is a plan view, similar to Figs. 1 and 2, illustrating a slight modification in the manner of arranging the spiral tube. Fig. 8 is a detached perspective view of the toe-plate used in the modification shown in Figs. 6 and 7.

A represents the upper, B the insole, C the counter, D the outer sole, and E the heel, all arranged in the ordinary manner.

Before the outer sole, D, is attached upon the shoe one or more channels, *a*, will be formed in it and a corresponding channel or channels formed in the outer sole, the channels adapted to receive a coiled wire tubular spring, *b*, as shown. In Figs. 1, 2, and 3 this tube *b* is shown curved around in the toe portion and running along each side and brought together and conducted upward into a channel in the counter C, and ending in cavities or sockets *d* in a plate, F, the latter adapted to be held between the counter and the outer covering or heel portion A' of the upper A. In the channel *a* a number of perforations, *a'*,

will be formed through the insole, connecting the channel with the interior of the boot or shoe, while a perforation, *a''*, will be formed through the heel portion A' of the upper, opposite a chamber, *d'*, in the upper part of the plate F, as shown in Figs. 1, 2, 3, and 4, this chamber communicating with the sockets *d* for the tube *b*.

In Figs. 6 and 7 a slight modification in the manner of constructing the device is shown, consisting in forming the tube *b* in one single line and connecting it near the toe portion to a plate, G, embedded into the insole and connected by a perforation, *a'''*, with the interior of the boot or shoe. The hole *a''* will be high enough above the lower surface of the sole to prevent water or other foreign matter from entering it.

By this simple device the air which has heretofore been confined in the toe portion of boots and shoes is free to escape, while at the same time the free access of fresh air to the interior of the shoe prevents the perspiration of the foot being confined therein, but leaves it free to evaporate through the tube *b*, thus preventing the foot from becoming heated in warm weather or cold in cold weather. The free circulation of the air also effectually prevents the formation of corns and bunions on the feet of the wearer.

The plate G upon the tube *b* prevents it being turned around in the channel *a*, or otherwise displaced. The plate F is also an important feature of my invention, as it not only forms a secure support and socket for the tube, but also protects the inlet end of the tubes from pressure or friction from the outside.

The tube *b* may be constructed of any suitable material or of any desired form or size. It may be made of wire, as shown, or of paper, rubber, leather, celluloid, or other pyroxyline compounds, metal tubing, or wood, or other substances.

Having thus described my invention, what I claim as new is—

1. A boot or shoe having channel *a* formed in its sole and adapted to support a tube, *b*, connecting the interior of said boot or shoe with the open air, in combination with a plate, F, having one or more sockets, *d*, for the reception of the end of said tube and adapted to

be held between the counter and heel portion of the upper of said boot or shoe, substantially as and for the purpose set forth.

2. The combination, with a boot or shoe
5 having a channel, *a*, formed in the insole and having communication with the exterior air, of the plate *G* in the toe of the shoe, and a spiral wire tube, *b*, connecting with the said plate and inserted in the said channel, all sub-
10 stantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HENRY A. STEVENS.

Witnesses:

A. WELLS,

J. P. MARTIN.