(No Model.)

W. CHURCH.

VENTILATED BOOT OR SHOE.

No. 417,858. Patented Dec. 24, 1889.

Fig. 5

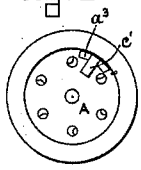


Fig. 2

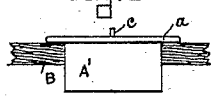


Fig. 3

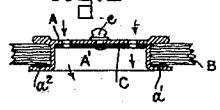


Fig. 4

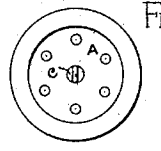


Fig. 8

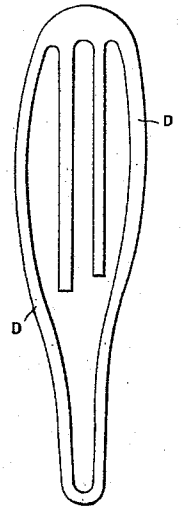


Fig. 7

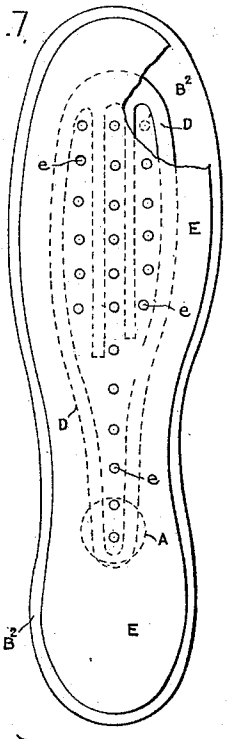


Fig. 1

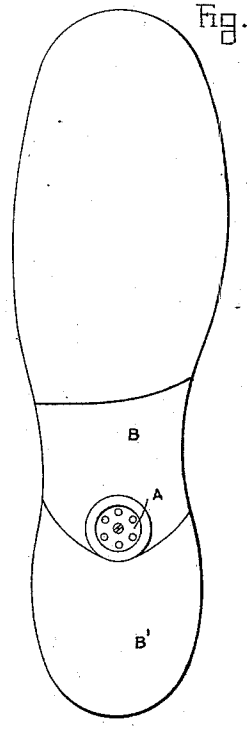
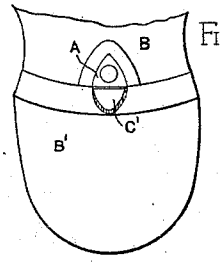


Fig. 6



Witgesses

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UNITED STATES PATENT OFFICE.

WILLIAM CHURCH, OF NORTHAMPTON, COUNTY OF NORTHAMPTON, ENGLAND.

VENTILATED BOOT OR SHOE.

SPECIFICATION forming part of Letters Patent No. 417,858, dated December 24, 1889.

Application filed July 24, 1888. Serial No. 280,898. (No model.) Patented in England June 29, 1888, No. 9,471.

To all whom it may concern:

Be it known that I, WILLIAM CHURCH, boot and shoe manufacturer, a subject of the Queen of Great Britain, residing at Northampton, in the county of Northampton, in the Kingdom of England, have invented certain new and useful Improvements in Ventilators for Boots or Shoes, (for which I have received provisional protection in England, dated June 29, 1888, No. 9,471,) of which the following is a specification.

This invention relates to ventilators for boots, shoes, and similar foot-coverings, and has for its object a simple arrangement for producing the efficient ventilation of such articles, and an adjustable device by means of which the amount of ventilation may be varied at will from the outside of the article.

Referring to the accompanying drawings, Figure 1 is a plan of the under side of a boot or shoe, showing the adjustable ventilator in position. Figs. 2, 3, and 4 are respectively an elevation, section, and plan (all on the enlarged scale) of the adjustable ventilator, it being supposed in these figures that the boot or shoe is in the reversed position—that is, the position it would assume during the insertion of the ventilator from the outside. Fig. 5 is a similar view to Fig. 4, showing a slight modification. Fig. 6 shows a portion of the under side of a boot or shoe provided with a modified form of ventilator. Fig. 7 is a plan of the upper side of the outsole, skeleton middle sole, and perforated insole, hereinafter more fully described. Fig. 8 is a detached view of the skeleton middle sole aforesaid.

The ventilator, which may be made of metal or any suitable composition, consists, essentially, of a perforated plate A, which is located in the waist B of the boot or shoe and just in front of the heel B′, as shown in Figs. 1, 6, and 7.

The perforated plate A is preferably attached to the waist B, as follows: The plate A forms a diaphragm within or at one end of a short tube A′, to which it is rigidly secured or with which it is formed, the tube A′ being also provided at the same end as the plate with an outer flange *a*. The tube is inserted from the outside into a hole cut through the waist of the boot or shoe, and it is rather longer than the thickness of the material forming the waist, so that it projects through the same, as in Fig. 2. The tube being inserted into the hole aforesaid, it is driven home until the flange *a* rests against the outer surface of the waist, as in Fig. 2. The projecting end of the tube is now turned outward, so as to form a flange *a′*, Fig. 3, bearing against the inside of the waist, a washer a^2 being, by preference, slipped over the end of the tube prior to its being turned outward. The tube may be of any desirable contour in cross-section, though it is preferably circular.

To adjust the amount of ventilation, a perforated plate C, similar to the perforated plate A, is provided. The plate C bears against the plate A, preferably on the inner side thereof, being pivoted thereto and fitted with a small button *c*, by which it may be turned from the outside whenever it is desired to adjust the ventilating area of the holes in plate A. This may be understood by reference to Fig. 5, where the holes are shown partially closed.

Instead of the central button *c*, the movable plate G may be provided with a tongue *c′*, Fig. 7, which is inserted through a slot a^3 in the fixed plate A, and is then turned down over the same, so as to form a handle, by which the plate C may be adjusted. With a ventilator located and constructed as above set forth, the necessity of any communication through the heel or up the back of the boot or shoe is obviated.

In Fig. 6 the movable ventilator-plate C′ is shown hinged at one edge to the ventilator, so as to open outward and rest against the front edge of the heel when the ventilator is in use, the said plate being held in its open or closed position by any known spring-hinge.

In conjunction with the ventilator, a skeleton middle sole D, as in Figs. 7 and 8, may also be employed, by means of which a communication is established between the ventilator and the front portion of the insole. The

nsole E is also perforated, as at *e e*, Fig. 7, above the open portions of the skeleton sole D. The outsole B^2, skeleton sole D, and insole E may be secured in any suitable manner.

I claim as my invention—

In combination with the sole of a boot or shoe provided with an opening in the waist immediately in front of the heel, and a ventilator secured within said opening, of a skeleton middle sole D, extending from said ventilator to a point near the toe of the boot or shoe, and a perforated insole E, having perforations corresponding in position to the openings in the skeleton sole, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM CHURCH.

Witnesses:

GEO. RENDRE BISHOP,
Assistant Justice's Clerk, Guildhall, Northampton.

JNO. D. DOUGLAS,
Notary's Clerk, Northampton.