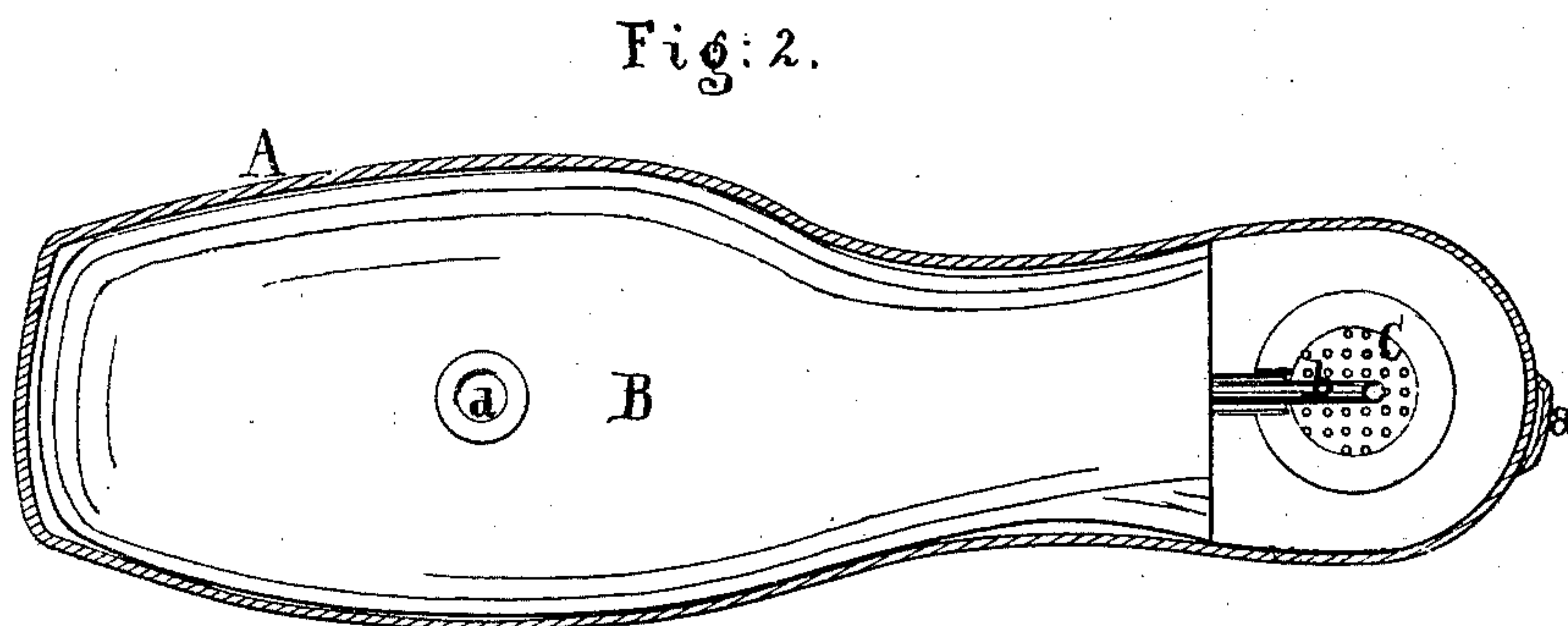
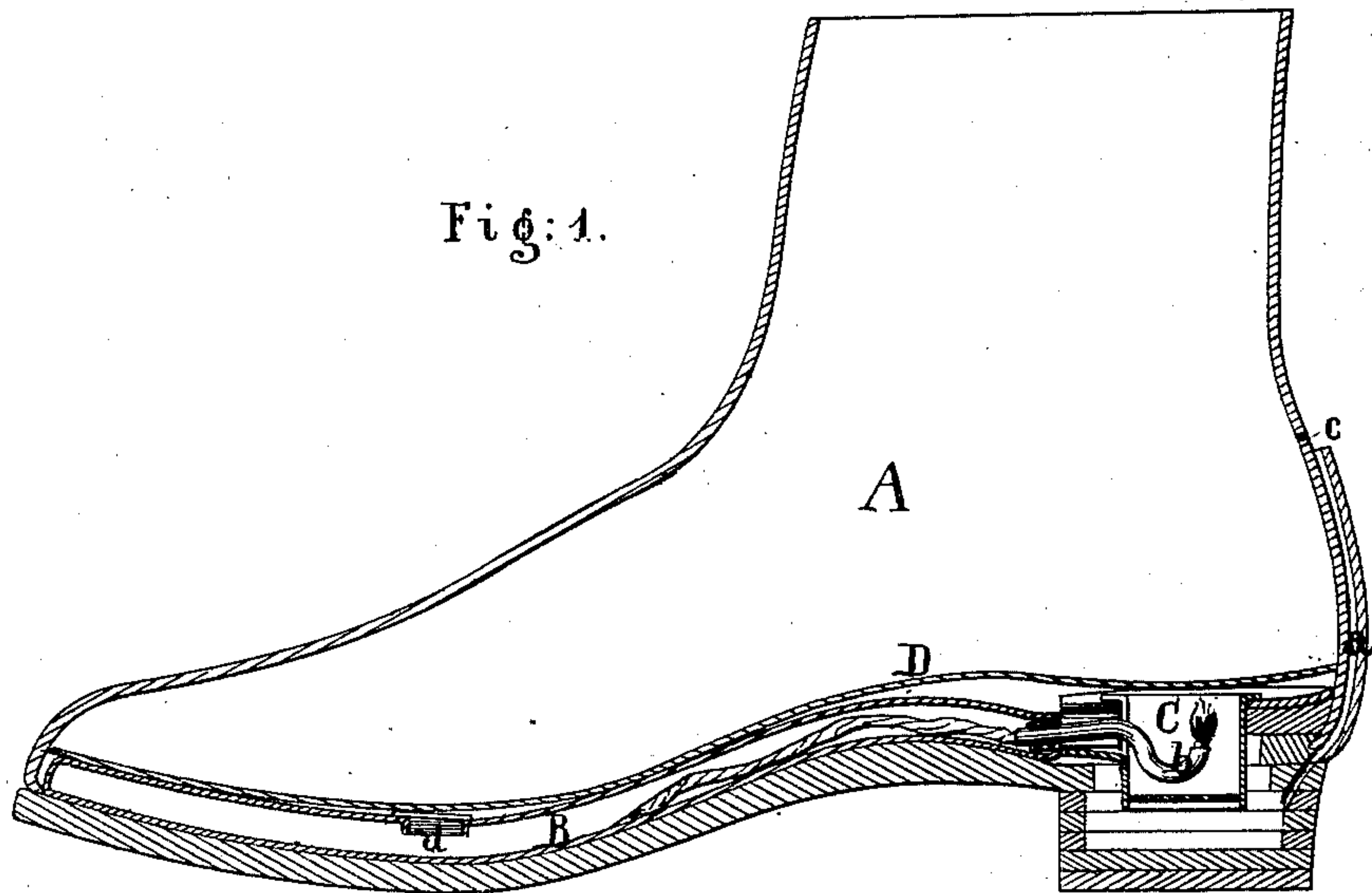


C. ANGRESIUS.

Heating-Attachments for Boots and Shoes.

No. 156,117.

Patented Oct. 20, 1874.



Witnesses:
Chas. Wählers.
Henry Göttinger.

Inventor:
Carl Angresius
for
Van Santvoord & Hauff
attys

UNITED STATES PATENT OFFICE.

CARL ANGRESIUS, OF NEW YORK, N. Y.

IMPROVEMENT IN HEATING ATTACHMENTS FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **156,117**, dated October 20, 1874; application filed September 11, 1874.

To all whom it may concern:

Be it known that I, CARL ANGRESIUS, of the city, county, and State of New York, have invented a certain new and Improved Heating Attachment for Boots and Shoes, of which the following is a specification:

This invention consists in an oil-cistern formed to correspond to the sole of a boot or shoe, and provided with a wick-tube, which, when said oil-cistern is in position, extends over an air-chamber, which is situated in the heel, both the oil-cistern and the air-chamber being covered by a metallic insole in such a manner that when the wick of the oil-cistern is lighted the flame strikes the metallic insole and an agreeable heat is diffused throughout the interior of the boot or shoe.

This invention is illustrated in the accompanying drawing, in which Figure 1 represents a vertical section. Fig. 2 is a horizontal section.

Similar letters indicate corresponding parts.

In the drawing, the letter A designates a shoe, into which is placed an oil-cistern, B, made in such a form that it will fit the sole of the boot or shoe, extending from the toes back to an air-chamber, C, which is formed in the heel of the shoe. The bottom of said air-chamber is perforated, and the space beneath it communicates by a channel, *a*, with the external air. From the oil-cistern B extends a wick-tube, *b*, into the air-chamber C, and on said cistern and air-chamber is placed a metallic insole, D, which is preferably loose, so that it can be readily removed for the purpose of gaining access to the wick and to the oil-

cistern. In the counter is a hole, *c*, which serves to carry off the products of combustion. This hole can be made to communicate by means of a pipe with the upper part of the air-chamber; but, if desired, this pipe can be omitted. The oil-cistern is provided with an aperture, through which it can be supplied with oil, and this aperture is closed by a screw-plug, *d*. The body of the oil-cistern is made of sheet-copper, or any other good conductor of heat, and if the wick is lighted the flame strikes the metallic insole D, and at the same time the body of the oil-cistern becomes heated and the temperature of the interior of the shoe is raised to a comfortable degree.

By this arrangement persons exposed to cold temperatures and suffering from cold feet are enabled to keep their feet warm during all seasons of the year, and my heating attachment can be applied to boots or shoes of any description.

What I claim as new, and desire to secure by Letters Patent, is—

The combination, with a boot or shoe, of the oil-cistern B, air-chamber C, wick-tube *b*, passage *a*, and the metallic insole or plate D, arranged substantially as and for the object specified.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of September, 1874.

CARL ANGRESIUS.

Witnesses:

W. HAUFF,
E. F. KASTENHUBER.