

No. 803,662.

PATENTED NOV. 7, 1905.

C. S. BROWN & F. M. BREMILLER.

ORCHARD HEATER.

APPLICATION FILED SEPT. 8, 1903.

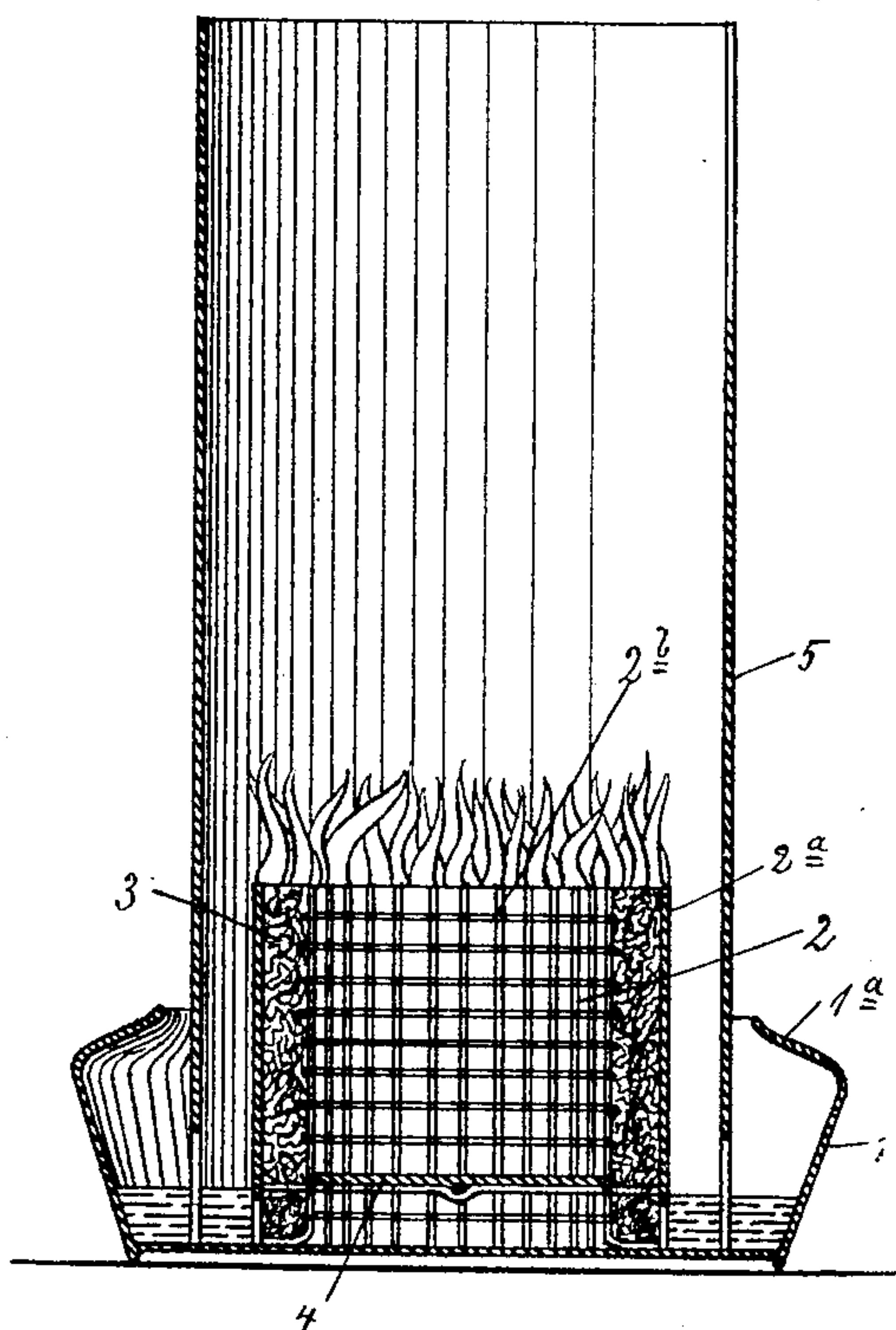


Fig. 1.

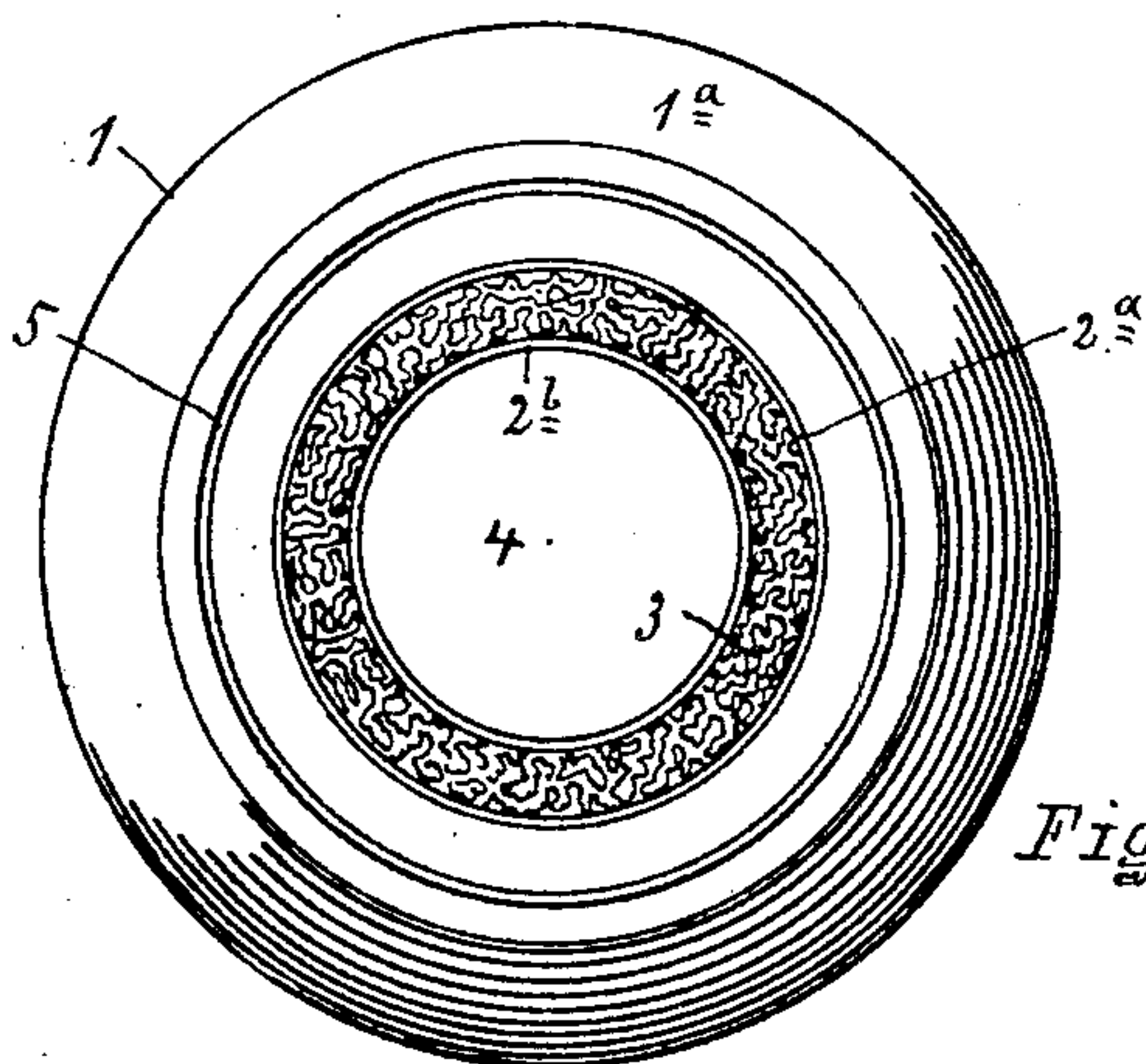


Fig. 2.

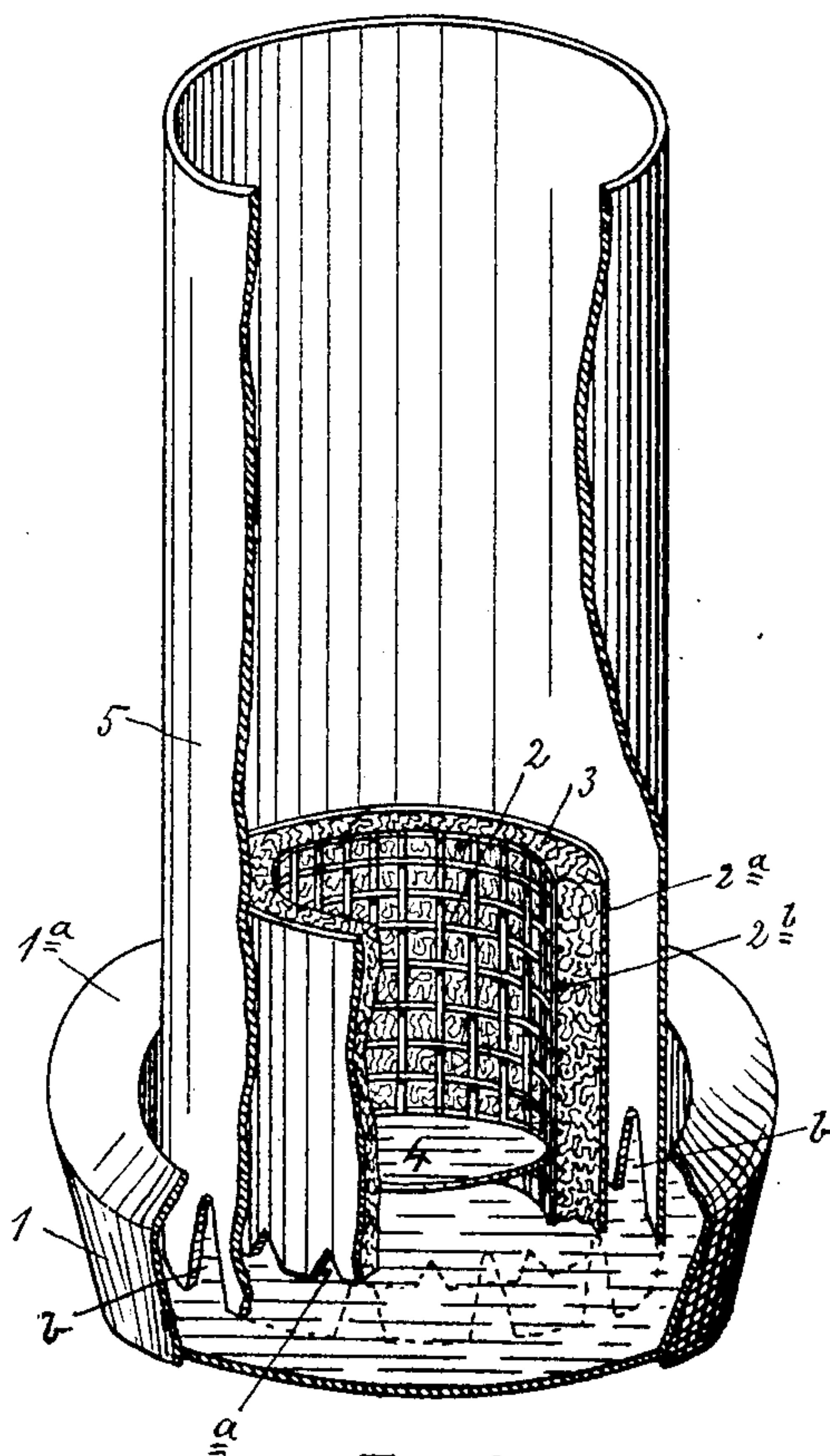


Fig. 3.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

CHARLES S. BROWN AND FRANK M. BREMILLER, OF UTICA, NEW YORK.

## ORCHARD-HEATER.

No. 803,662.

Specification of Letters Patent.

Patented Nov. 7, 1905.

Application filed September 8, 1903. Serial No. 172,251.

*To all whom it may concern:*

Be it known that we, CHARLES S. BROWN and FRANK M. BREMILLER, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Orchard-Heaters; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form part of this specification.

The object of our invention is to provide an inexpensive simple heating device adapted to outdoor use and capable of being conveniently handled and operated in large numbers.

To ward off frost in orange-groves, it has recently become necessary and the practice to provide at critical times a heating apparatus under the trees or a heating and smoking device, as the smoke in calm weather seems to be quite effective. Our invention is particularly intended for this use.

In the drawings, Figure 1 shows a vertical section of our improved device. Fig. 2 shows a plan view of the device. Fig. 3 shows, partially in perspective and partially in broken-out section, the device.

Referring to the reference characters in a more particular description, 1 indicates a shallow pan, which we prefer to provide with the inwardly-turned upper edge 1<sup>a</sup>, although this feature may be omitted. Sitting in the pan, but not attached thereto, is the wick-basket 2, consisting of a circular shell 2<sup>a</sup> as to the outer wall and a wire-netting 2<sup>b</sup> as to the inner wall. Between the walls 2<sup>a</sup> and 2<sup>b</sup> there is placed a capillary material 3, such as asbestos or mineral wool, preferably. The netting 2<sup>b</sup> is at the lower end preferably turned outward, forming a bottom to the space in which the capillary material is placed. Near the bottom of the wick-basket there is provided a plate or disk 4, which closes the opening through the cylinder at this point. The lower edge of the outer wall 2<sup>a</sup> is notched at intervals, as indicated at *a*. Sitting on the bottom of the pan between the exterior of the wick-basket 2 and the sides of the pan is an elongated cylinder 5 in the nature of a section of stovepipe. The cylinder 5 extends considerably above the top of the wick-basket, while the wick-basket extends above the top of the pan. The lower edge of the cylinder 5 (which

is, in effect, a draft-tube) is provided with notches *b*. As these devices are usually handled in large numbers and by the wagon-load in actual use, they are preferably in separate pieces. When it is desired to use one, the pan is set on the ground. The wick-basket (which is already loaded with capillary material) is set into it, and the pan is then filled partially with crude petroleum—say about up to the level of the basket-bottom 4. The wick is then lighted and the draft-pipe 5 set in position.

The device may be used under certain circumstances, particularly in calm weather, without the draft-tube 5. The petroleum finds a passage to the wick through the openings *a* in the bottom of the outer wall 2<sup>a</sup> of the wick-basket. The perforate or network inner wall of the wick-basket affords a large surface for the generation and escape of gases. Air is supplied to the burner when the draft-tube 5 is in position through the openings *b* in the lower edge thereof above the surface of the oil. The supply of oil may be replenished from time to time by means of a device in the nature of a watering-pot, the supply being poured down the outer wall of the draft-pipe 5.

As these devices are used in the open air, they are liable to get full of sand and dirt blown about by the wind, and it is important that they can be disassembled in order to clean them and keep them in proper working order.

The inwardly-turned edge 1<sup>a</sup> on the pan serves, to some extent, to keep the pan free from drifting sand or other foreign material. In case this inwardly-turned edge is not used, it will be found necessary to clean the device frequently.

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

1. The combination in a heating device of the character described, of a shallow pan, a circular wick-basket of comparatively large diameter adapted to be set into the pan on the bottom thereof, and having a closed outer wall and perforate or netting inner wall, and a capillary material in the wick-basket, substantially as set forth.

2. The combination in a heating device of the character described of a shallow pan, a circular wick-basket of comparatively large diameter closed near the bottom, and adapted to be set into the pan on the bottom thereof, and having a closed outer wall above the plane of said closure in the basket, and a perforate or netting inner wall, and a capillary mate-

rial in the wick-basket, substantially as set forth.

3. The combination in a heating device of the character described of a shallow pan of  
5 comparatively large diameter, a circular wick-basket of greater height than the depth of the pan, having at its upper end a closed outer wall and on the inner side a perforated or netting wall and adapted to set into the pan  
10 on the bottom thereof and easily removable therefrom, and a capillary material in the wick-basket between the walls, substantially as set forth.

4. The combination in a heating device of  
15 the character described of a shallow pan of comparatively large diameter, open at the top, a circular wick-basket adapted to be set

into the pan on the bottom thereof through said opening, a capillary material in the wick-basket and a draft-tube adapted to set over 20 the wick-basket into the pan on the bottom thereof, having openings at or near the lower end, the draft-tube and wick-basket being readily separable from the pan, substantially  
25 as set forth.

In witness whereof we have affixed our signatures, in presence of two witnesses, this 2d day of September, 1903.

CHAS. S. BROWN.

FRANK M. BREMILLER.

Witnesses:

J. BENJ. BRADY,

E. S. HESSE.