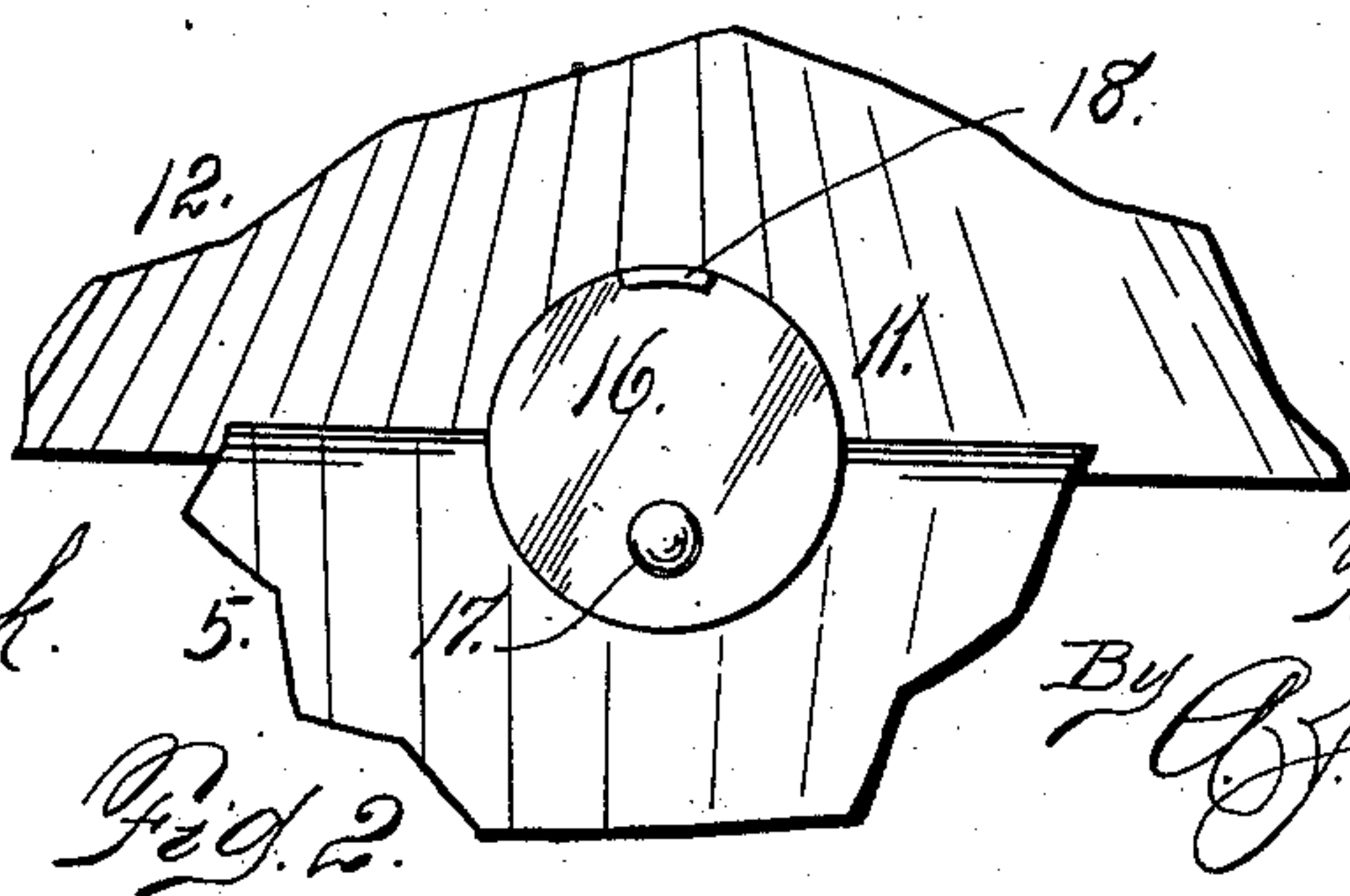
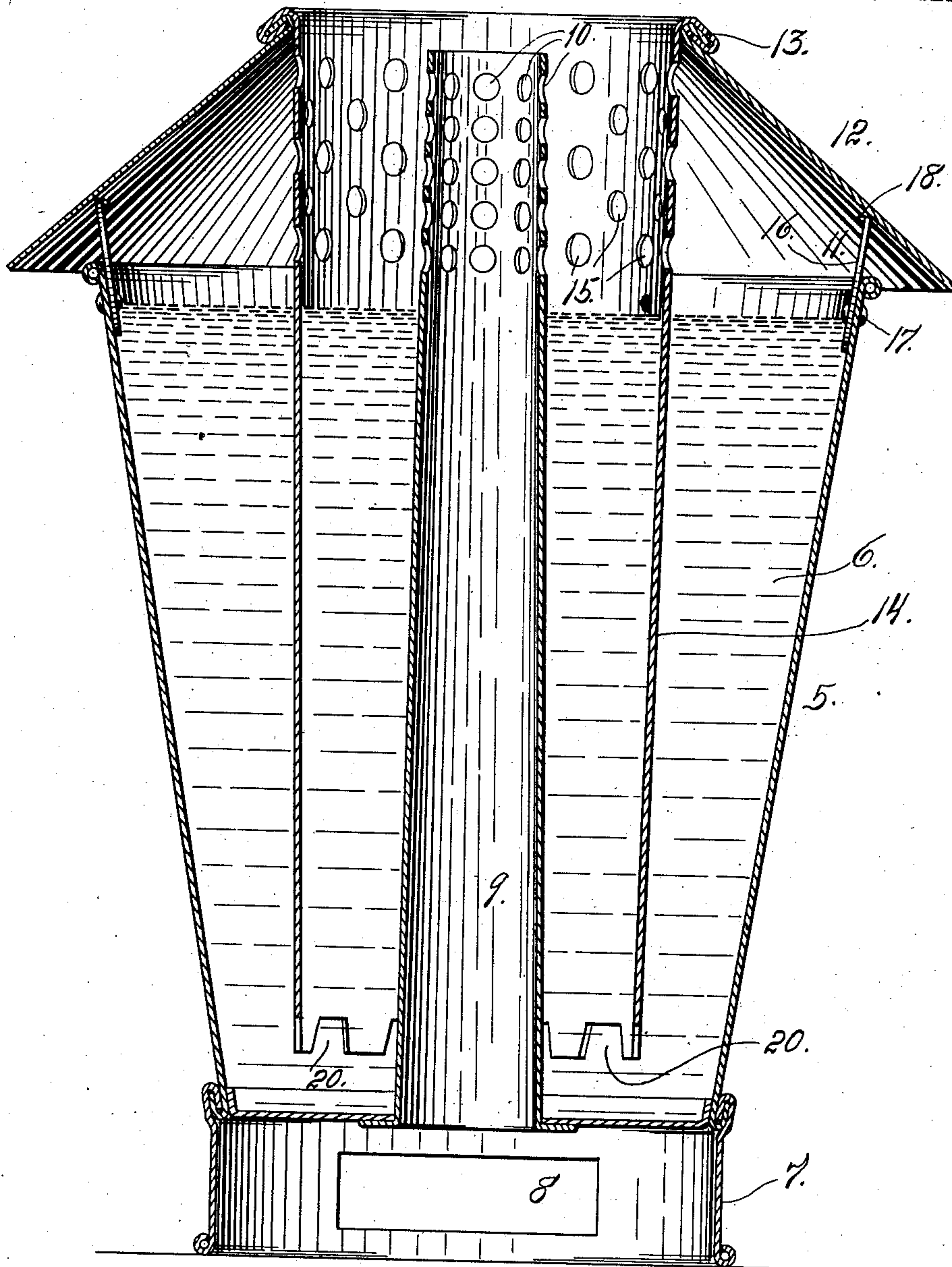


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 ORCHARD HEATER.  
 APPLICATION FILED JAN. 10, 1910.

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Patented Dec. 13, 1910

2 SHEETS—SHEET 1.



Witnesses  
*Otto E. Hoddick.*  
*J. D. Thornburgh.*

Fig. 2.

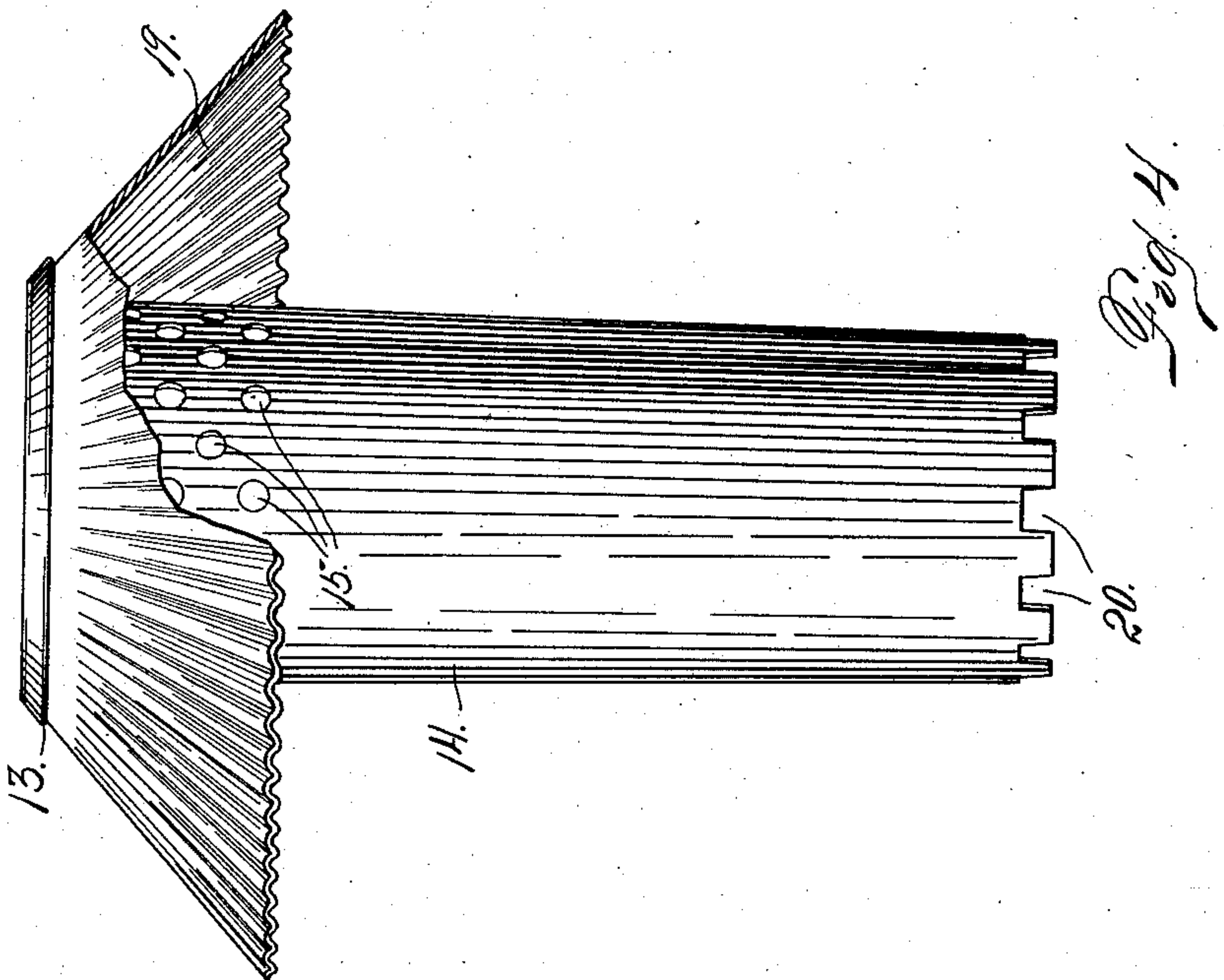
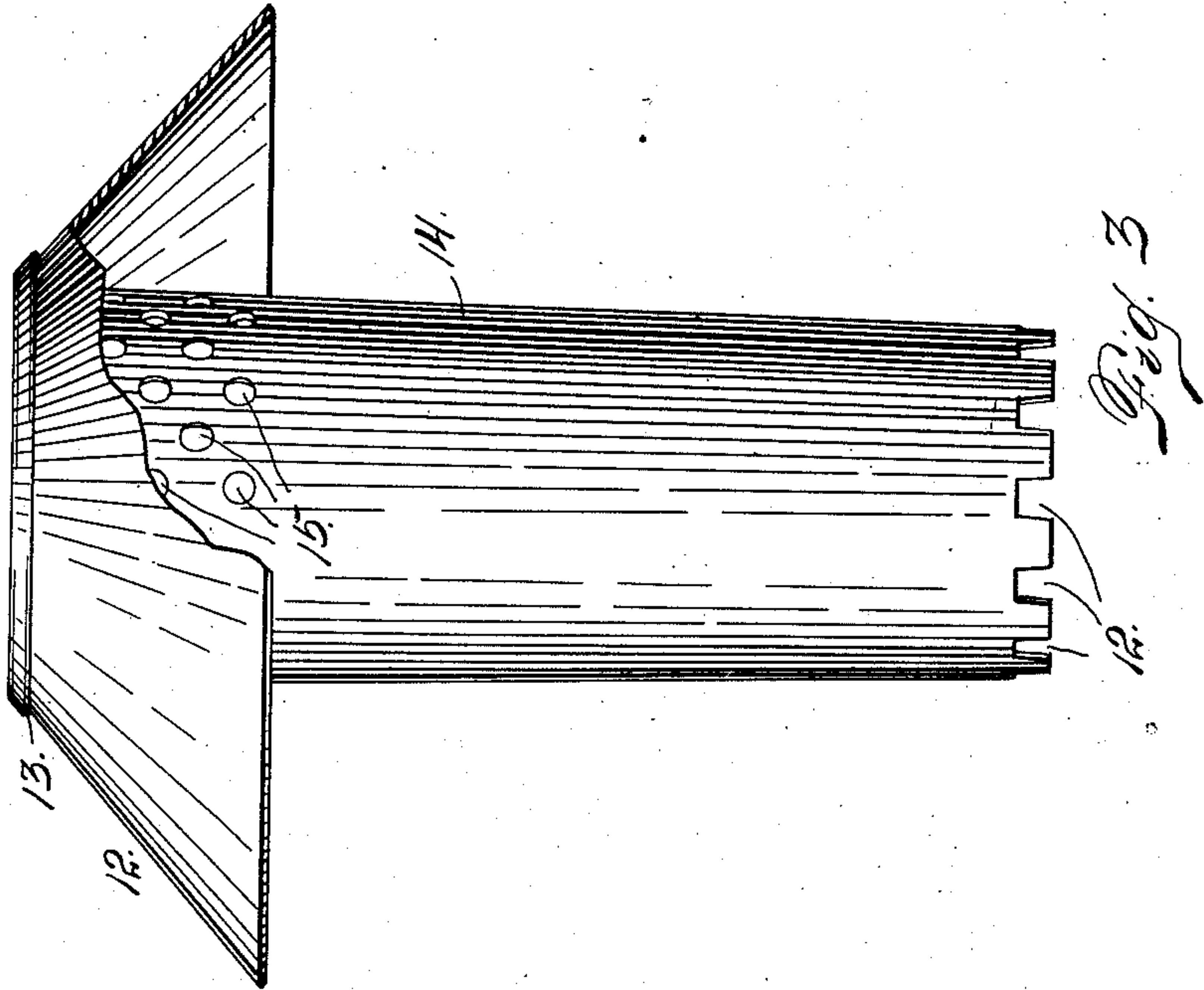
Inventor  
*P. H. Troutman.*  
 By *C. J. O'Brien.*  
 Attorney

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*P. H. Troutman.*  
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Attorney



# UNITED STATES PATENT OFFICE.

PERCIVAL HAMMER TROUTMAN, OF CANON CITY, COLORADO.

## ORCHARD-HEATER.

978,793.

Specification of Letters Patent.

Patented Dec. 13, 1910.

Application filed January 10, 1910. Serial No. 537,278.

*To all whom it may concern:*

Be it known that I, PERCIVAL HAMMER TROUTMAN, a citizen of the United States, residing at Canon City, county of Fremont, and State of Colorado, have invented certain new and useful Improvements in Orchard-Heaters; and I do declare the following to be a full, clear, and exact description of the invention, such as 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 letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in orchard heaters, my object being to provide a construction of this class which shall be adapted to properly perform the function indicated by its title. These heaters when in use are distributed through the area covered by the orchard or where the vegetation to be protected is located, the number being sufficient to properly raise the temperature of the atmosphere over the entire area to be protected, to the degree necessary to prevent injury to vegetation due to frost or the lowering of the temperature to a point which will injure the same.

In my improved construction the fuel receptacle has a chimney located in its central portion and registering with an opening in the bottom thereof. This chimney is surrounded by a depending member adapted to limit the volume of the combustion chamber or the portion of the receptacle in which combustion actually takes place. This depending member is connected with a hood which itself either rests upon supports with which the upper portion of the receptacle is provided, whereby the hood is raised above the receptacle to permit the entrance of air; or the hood is corrugated, whereby it is adapted to rest directly upon the upper edge of the receptacle, the corrugations forming openings for the admission of the necessary air for purposes of combustion. The portion of the depending member, extending above the level of the fuel, is perforated, which is also true of the upper portion of the centrally located chimney.

Having briefly outlined my improved construction, I will proceed to describe the same in detail, reference being made to the accompanying drawing in which is illustrated an embodiment thereof.

In this drawing: Figure 1 is a central ver-

tical section of my improved orchard heater. Fig. 2 is a fragmentary view of the upper portion of the same. Fig. 3 is a detail view partly broken away, showing the hood and the depending member. Fig. 4 is a similar view showing a slightly modified form of construction.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the fuel receptacle which is adapted to hold oil 6 or other liquid fuel. This receptacle is supported upon a cylindrical base 7 having a draft opening 8 communicating with the chimney 9 which is centrally located within the receptacle. The upper part of this chimney is perforated as shown at 10.

As shown in Fig. 1 of the drawing, the upper portion of the receptacle is provided with members 11 which project above the upper edge of the receptacle and form a support for a frusto-conical hood 12 whose upper edge is interlocked as shown at 13 with the upper extremity of the depending member 14 which extends downwardly into the fuel of the receptacle the desired or necessary distance. As shown in the drawing, this depending member extends nearly to the bottom of the receptacle while its upper portion is perforated as shown at 15. The support 11 may consist of a member eccentrically pivoted to the upper portion of the fuel receptacle so that when desired it may project above the upper edge of the receptacle and form a support for the hood but when thrown to its other extreme position it will not protrude above the edge of the receptacle but will allow the hood to completely close the same. This form of construction is illustrated in Fig. 2 in which the support consists of a disk 16 eccentrically pivoted as shown at 17, the said disk being provided with a lug or projection 18 to reinforce the portion of its edge which engages the hood when the disk is adjusted to support the hood above the top of the receptacle.

In the form of construction shown in Fig. 4, the hood is corrugated as shown at 19, whereby it may rest directly upon the upper edge of the receptacle, since by virtue of the corrugations ample provision is made for the entrance of the necessary air for combustion purposes.

When the device is in use the receptacle is provided with the necessary quantity of oil



which is lighted within the space or area between the chimney 9 and the depending member 14. This space forms the combustion chamber of the heater, the oil being of course at the same level within the said chamber as outside of it by virtue of the fact that the depending member is raised above the bottom of the fuel receptacle. The lower extremity of this depending member is notched or recessed as shown at 20 to provide for the circulation of the oil even though the depending member should rest directly upon the bottom of the fuel receptacle.

15 Having thus described my invention, what I claim is:

1. An orchard heater, comprising a liquid fuel receptacle having a draft opening in the bottom thereof, a centrally located chimney communicating with the said draft opening, a hood supported a suitable distance above the upper edge of the receptacle to form an air opening between the hood and the receptacle, the said hood having an opening therein, a depending member supported by the hood and communicating with the said opening the upper portion of the depending member below the hood being perforated, the said member surrounding the chimney and suitably spaced therefrom to form a combustion chamber between the chimney and the receptacle, substantially as described.

2. An orchard heater comprising a fuel receptacle having a draft opening in the bottom thereof, an open ended chimney communicating with the said opening and extending upwardly through the receptacle, a hood supported over the upper edge of the receptacle, and having a space between the hood and the edge of the receptacle to permit the entrance of air for combustion, the hood having an opening therein, a depending member supported by the hood and in communication with the said opening the upper portion of the depending member below the hood being perforated, the said member surrounding the chimney and suit-

ably spaced therefrom to form a combustion chamber, substantially as described.

3. An orchard heater comprising a liquid fuel receptacle having a draft opening in the bottom thereof, a centrally located open ended chimney in communication with said draft opening, the upper portion of the said chimney being perforated, a hood supported a suitable distance above the upper edge of the receptacle to form an air space between the hood and the receptacle, the said hood having an opening therein, a depending member supported by the hood and in communication with the opening therein the upper portion of the depending member below the hood being perforated, the said member extending downwardly around the chimney into the liquid fuel, and suitably spaced from the chimney to form a combustion chamber, substantially as described.

4. An orchard heater comprising a liquid fuel receptacle having a draft opening in the bottom thereof, an open ended chimney in communication with the said draft opening, and extending upwardly through the receptacle, the upper portion of the said chimney being perforated for feeding air to the inner surface of the fuel, a hood supported a suitable distance above the upper edge of the receptacle to form an air space between the hood and the receptacle, the said hood having an opening therein, a depending member supported by the hood and in communication with the opening therein the upper portion of the depending member below the hood being perforated, the said member extending downwardly into the fuel of the receptacle and terminating a suitable distance above the bottom of the receptacle to permit of the entrance of the fuel into the said member, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

PERCIVAL HAMMER TROUTMAN.

Witnesses:

JESSIE F. HOBART,  
VIRGINIA I. DAVIS.