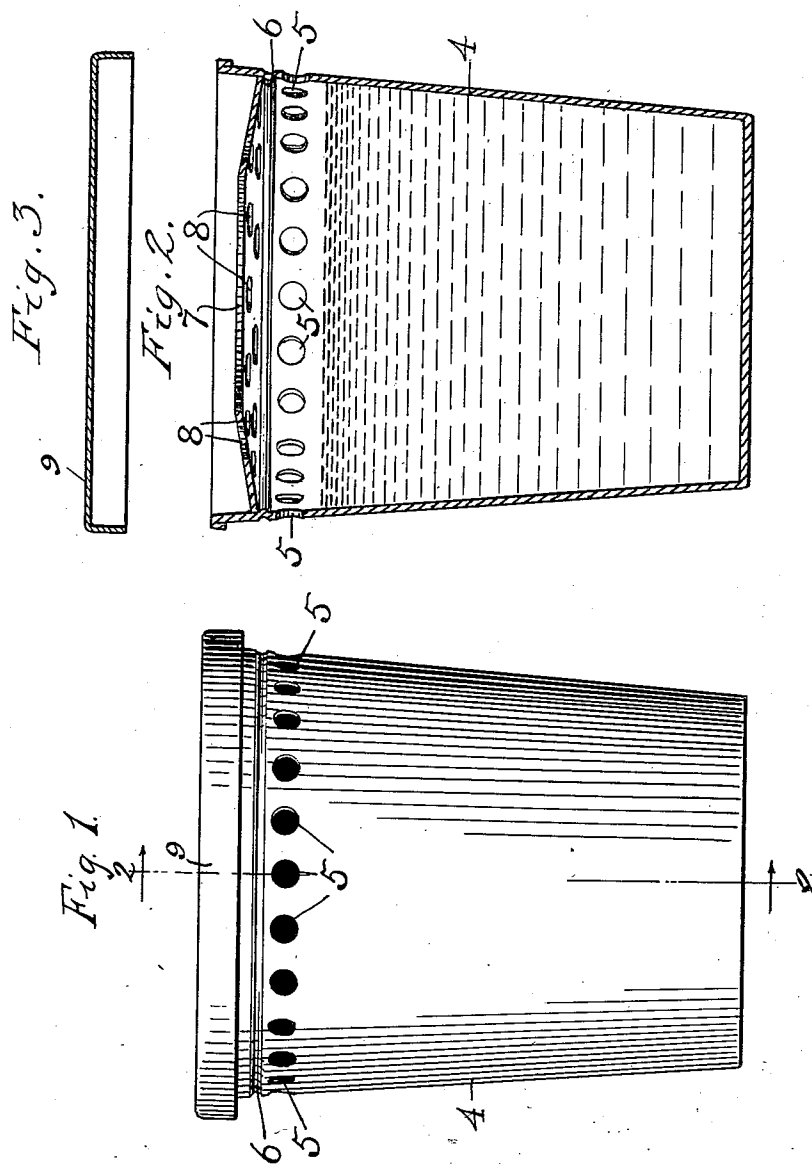


J. L. HAMILTON.
 ORCHARD HEATER.
 APPLICATION FILED JAN. 3, 1911.

1,018,048.

Patented Feb. 20, 1912.



WITNESSES:

J. K. McClintock
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INVENTOR

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UNITED STATES PATENT OFFICE.

JAMES L. HAMILTON, OF GRAND JUNCTION, COLORADO, ASSIGNOR TO THE HAMILTON ORCHARD HEATER COMPANY, A CORPORATION OF WEST VIRGINIA.

ORCHARD-HEATER.

1,018,048.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES L. HAMILTON, a citizen of the United States, and a resident of the city of Grand Junction, in the county of Mesa and State of Colorado, have invented certain new and useful Improvements in Orchard-Heaters, of which the following is a specification.

My invention relates to improvements in orchard heaters, and the object of my improvement is to provide a simple and inexpensive heater, adapted to use liquid fuel, and provided with means whereby the rate of combustion of the fuel may be readily varied as may be required by the variation of the temperature of the air.

My improved orchard heater is shown in the accompanying sheet of drawings in which:

Figure 1 is a side elevation of the heater with the protecting cover on. Fig. 2 is a sectional view of the heater on the line 2—2 of Fig. 1. Fig. 3 is a sectional view of the cover.

Similar reference characters are used to indicate similar parts in each of the views.

The fuel receptacle or reservoir 4 is frusto-conical in shape, as shown in the drawings, the lower end being the smaller. Near the upper rim of the fuel receptacle is provided a circumferential row of perforations 5 for draft purposes. A circumferential rib 6, which is located a short distance above the draft perforations 5, forms a support for the annular deflecting plate 7. This deflecting plate preferably has an upward slope toward the center, as is clearly shown in Fig. 2, and is provided with numerous perforations 8 and is entirely below the top of the fuel receptacle, as is clearly shown in Fig. 3. A cover 9, which is shown in position on the heater in Fig. 1, is provided for use when the heater is filled with the liquid fuel and set up in the orchard. This cover is only for preventing rain or snow from entering the fuel receptacle, and is to be removed when the fuel is to be lighted and the heater in operation.

The function of the perforated deflecting plate 7 is to reduce the rate of the consumption of the fuel while it also renders the combustion of the fuel more perfect so that but little smoke is produced. This desirable result is largely due to the thorough

mixture of fresh air with the heated gases in passing through the openings of the deflecting plate, which thus acts as a very efficient carbureter. When it is desired to increase the rate of the combustion of the fuel and thereby generate more heat, the deflecting plate 7 may be entirely removed, thereby allowing the combustion to proceed freely over the entire surface of the fuel within the reservoir.

When the heater is to be used, a suitable quantity of the oil, or other desired liquid fuel, is placed in the reservoir 4 which may be of any desired size, and a suitable number of the heaters thus filled are placed in the orchard, being covered so as to prevent rain or snow from entering. The fuel may fill the reservoir 4 up to a point close to the lower edge of the draft holes 5 or any less quantity may be used if desired. When the temperature of the air within the orchard falls to the danger point, the covers 9 are removed and the fuel within the reservoirs is lighted, the deflecting plates 7 being left in position. If the temperature of the air continues to fall and it is found necessary to increase the heat, the deflecting plates 7 may be quickly removed from the reservoirs; whereupon the rate of combustion of the fuel will be considerably increased and considerable more heat will be generated thereby.

It is evident that the reservoir may be made to hold any desired quantity of oil. Its capacity preferably should be such that it can be burned for 10 to 12 hours without refilling during the night.

What I claim as my invention is:

1. An orchard heater comprising a liquid fuel reservoir, having draft openings near the top thereof, and a perforated annular deflecting plate removably supported within and below the top of the reservoir but above the draft openings.

2. An orchard heater comprising a liquid fuel reservoir having draft openings near the top thereof, and a perforated annular deflecting plate having an upward slope toward the center and removably supported within and below the top of the reservoir, but above the draft openings.

3. An orchard heater comprising a frusto-conical liquid fuel reservoir having draft openings near the top thereof, and a per-

forated annular deflecting plate removably supported within and below the top of the reservoir but above the draft openings.

4. An orchard heater comprising a frusto-
5 conical liquid fuel reservoir having draft openings near the top thereof, and a perforated annular deflecting plate having an upward slope toward the center and removably supported within and below the
10 top of the reservoir but above the draft openings.

5. An orchard heater comprising a frusto-conical liquid fuel reservoir having draft

openings near the top thereof, a circumferential rib immediately above said draft 15 openings, and a perforated annular deflecting plate of such outside diameter that it will fit within the top of the reservoir and be supported on the circumferential rib.

Signed at Grand Junction, in the county 20 of Mesa and State of Colorado, this twenty-eighth day of December, A. D. 1910.

JAMES L. HAMILTON.

Witnesses:

FRED. W. COE,

H. L. MCCLINTOCK.