J. L. HAMILTON.

ORCHARD HEATER.

APPLICATION FILED AUG. 19, 1912.

1,067,981. Patented July 22, 1913.

Fig. 3.

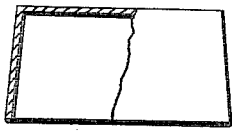


Fig. 1.

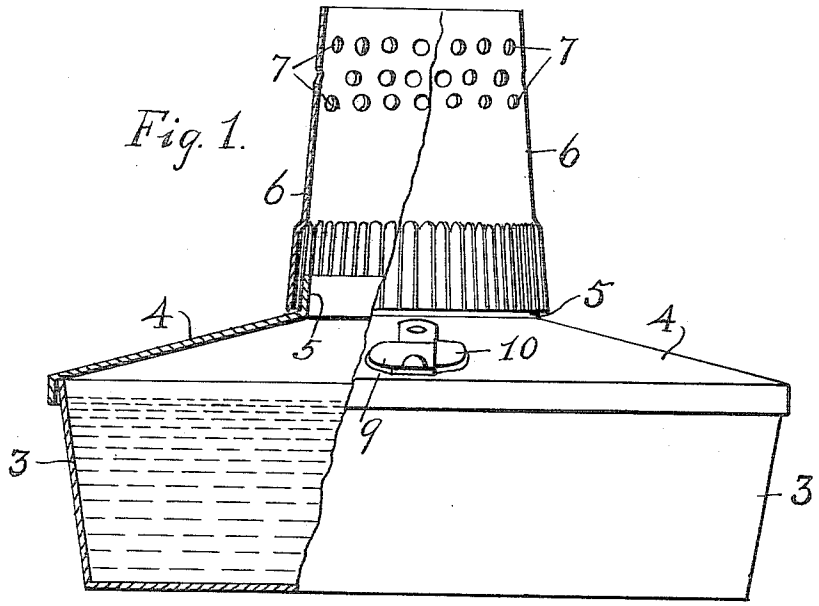
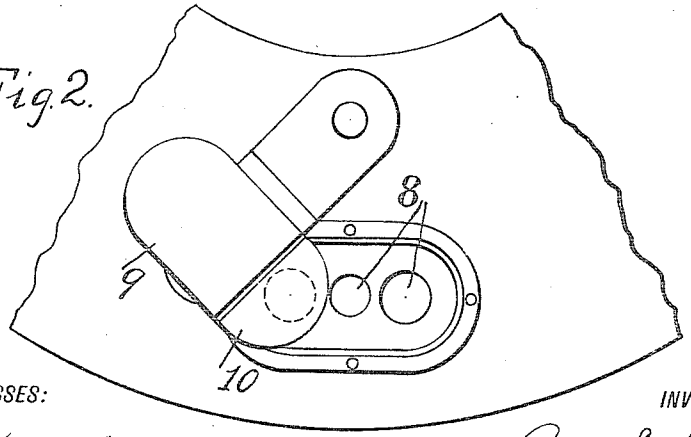


Fig. 2.



WITNESSES:

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

ORCHARD-HEATER.

1,067,981. Specification of Letters Patent. Patented July 22, 1913.

Application filed August 19, 1912. Serial No. 715,876

To all whom it may concern:

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

My invention relates to improvements in orchard heaters, such as are adapted to burn the heavy fuel oils derived from petroleum with but little or no smoke.

This invention may be regarded as an improvement on the type of orchard heater shown in two prior applications filed in the United States Patent Office, the first filed January 31, 1912, Serial No. 674,531, patented Nov. 26, 1912, No. 1,045,547, and the second filed July 2, 1912, Serial Number 707,216.

The object of the present improvement is to provide a heater of this type with simple and efficient means for supplying the desired volume of fresh air into the draft chimney at its base in such a manner that it will form an inclosing film between the hot gases and the draft chimney wall, thereby effectually preventing the condensation and accumulation of free carbon on the interior wall of the chimney.

A further object is to provide a suitable pivoted damper for the draft openings in the cover which may be readily opened and closed and which will effectually keep out rain or snow when closed.

The construction of my improved heater is shown in the accompanying sheet of drawings, in which—

Figure 1 is a side elevation partly in section showing the heater ready for use. Fig. 2 is an enlarged plan view of the pivoted damper. Fig. 3 is a view partly in section of the cover for the draft chimney.

Similar reference characters refer to similar parts in each of the views.

The fuel receptacle or reservoir 3 is preferably made tapering in shape being larger at the top, and is provided with a sloping annular hood 4 which fits closely over the top of the receptacle. This hood is provided with a centrally located collar or flange 5 which is turned upward as shown. The draft chimney 6 is preferably slightly tapering and has its lower and larger end corrugated in a longitudinal direction and is of such size that it will fit closely over the outer surface of the flange 5. This draft chimney is provided near its upper end with numerous air inlet openings or perforations 7.

For the purpose of admitting sufficient air to the surface of the fuel to maintain a slow combustion sufficient to generate gas therefrom, air inlet apertures 8 are provided in the sloping annular hood 4. The admission of air through these holes is regulated and controlled by a pivoted damper 9 which may be readily moved laterally so as to uncover one or more of the apertures 8 as shown in Fig. 2. One end 10 of this damper is raised somewhat above the plane of the damper so that when it is entirely closed as shown in Fig. 1 sufficient air will be admitted thereunder through one of the apertures 8 to maintain the combustion at a minimum.

In operation the air admitted through the apertures 8 serves to maintain the surface combustion of the fuel and heat the oil to a temperature sufficient to generate gas. This gas when rising meets with the air which is admitted through the corrugations between the flange 5 and base of the draft chimney 6. This air being thus admitted in what may be termed a circular film does not quickly mix with the gases until it has reached the level of the air inlet openings 7, when the inrushing air serves to thoroughly mix the air and gases which thereupon form a good combustion mixture and the gases are burned with but little or no smoke.

What I claim as my invention is—

1. An orchard heater comprising a tapering liquid fuel reservoir, an annular sloping hood provided with a central flange and fitted to the top of the fuel reservoir, and a tapering draft chimney having longitudinally arranged corrugations at one end which is fitted to the flange of the hood.

2. An orchard heater comprising a tapering liquid fuel reservoir, an annular sloping hood provided with a central flange and fitted to the top of the fuel reservoir, a tapering draft chimney having longitudinally arranged corrugations at its larger end which is fitted to the flange of the hood, and a plurality of air inlet holes near the smaller upper end of the draft chimney.

3. An orchard heater comprising a tapering liquid fuel reservoir, an annular sloping

hood provided with a central flange, a plurality of draft openings in the sloping hood, a single pivoted damper adapted to open and close one or more of said openings, a tapering draft chimney the large end of which is fitted outside the flange of the hood and a plurality of air inlet holes near the smaller upper end of the draft chimney.

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

JAMES L. HAMILTON.

Witnesses:
ADDA M. KEISER,
H. L. MCCLINTOCK.