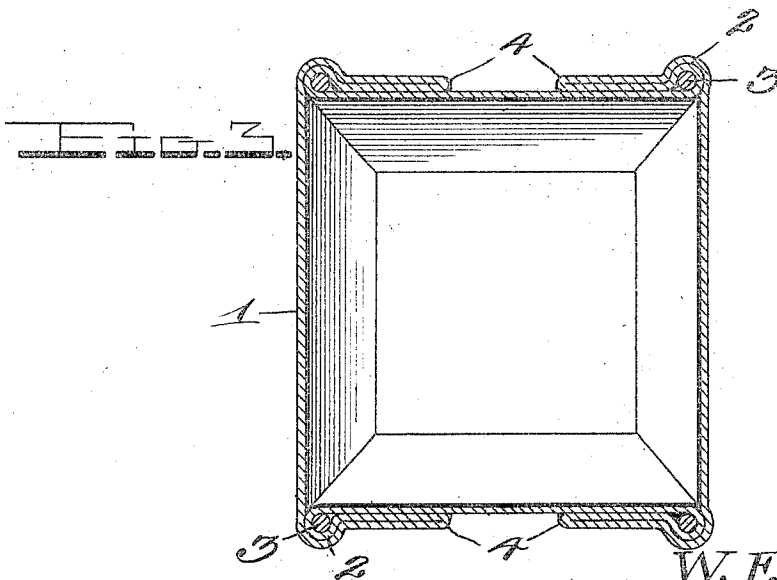
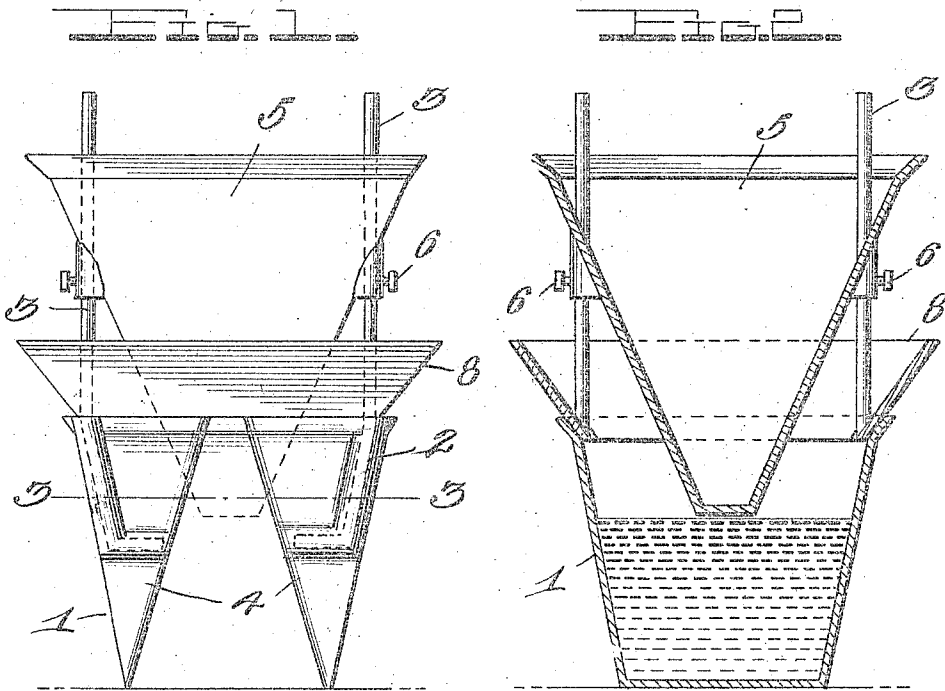


W. F. WELTY.
ORCHARD HEATER.
APPLICATION FILED JULY 29, 1911.

1,051,473.

Patented Jan. 23, 1913.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

FIG 5

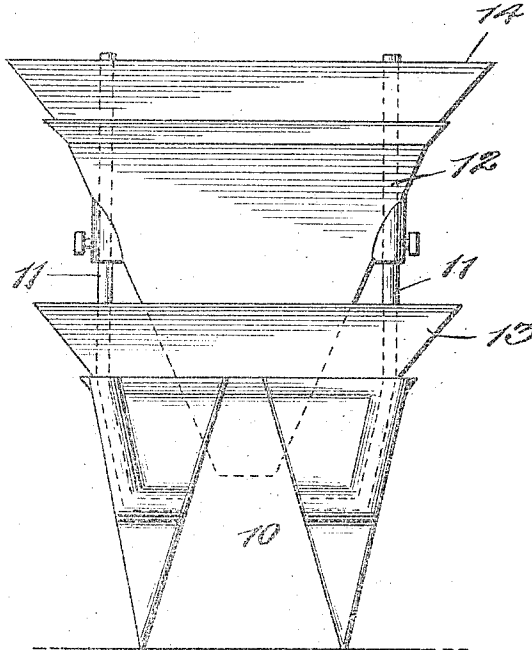
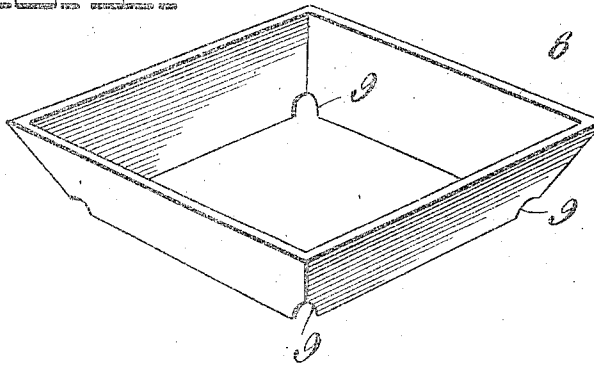


FIG 4



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UNITED STATES PATENT OFFICE.

WILLIAM F. WELTY, OF CUMBERLAND, NEW MEXICO

ORCHARD-HEATER.

1,051,473.

Specification of Letters Patent.

Patented Jan. 28, 1913.

Application filed July 29, 1911. Serial No. 841,213.

To all whom it may concern:

Be it known that I, WILLIAM F. WELTY, a citizen of the United States, residing at Cumberland, in the county of Chaves and State of New Mexico, have invented certain new and useful Improvements in Orchard-Heaters, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to new and useful improvements in orchard heaters and more particularly to a heater of the class agriculturally known as "smudge pots", and my object is to provide a device of this character which will effectively spread the heat over the surface of the ground with little or no waste thereof.

A further object of the invention resides in the provision of means whereby the burning surface of the oil in the receptacle will be increased as said oil burns in the receptacle.

A further object of the invention resides in providing a heat spreader or radiator which is adjustable with respect to the fuel receptacle, and a still further object resides in providing a spreader which is of substantially inverted pyramidal design.

A further object of the invention resides in providing a fuel receptacle having a plurality of guide or supporting rods secured thereto for cooperation with the heat spreader, and a still further object resides in the provision of a removable flange or the like which may be used on said receptacle and spreader.

A still further object of the invention resides in providing a device which is extremely simple in construction, thereby readily and cheaply manufactured and one which is very efficient and useful in operation.

With these and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawing forming a part of this application, Figure 1 is a side elevation of the device. Fig. 2 is a vertical section therethrough. Fig. 3 is a horizontal section as seen on line 3-3, Fig. 1. Fig. 4 is a detail perspective view of the flange member, and, Fig. 5 is a slightly

modified form of device completely set up for operation.

In carrying out my invention, I shall refer to the drawing in which similar reference characters designate corresponding parts throughout the several views and in which 1 indicates a receptacle formed of a single piece of metal, the sides of which are flared outwardly toward their upper ends. In forming the receptacle of a single piece of metal, the sides thereof are designed to overlap one another and two of the opposed sides of the receptacle have the ends thereof folded upon themselves to form sockets 2 at each of the corners of said receptacle, which sockets receive the lower ends of the guide rods or wires 3. These guide rods or wires are additionally held in the sockets 2 by means of the overlapping portions 4 of the two sides of said receptacle and said rods are extended vertically to any desired distance above the receptacle 1. This receptacle 1 forms a fuel receptacle for oil or other combustible liquids and a hood or heat radiator 5 of inverted pyramidal design is provided, said hood being provided on the corner edges thereof with openings through which extend the guide rods or wires 3, whereby said hood or radiator may be moved vertically on said rods. This hood or radiator member is also adapted to be formed of a single piece of metal of any desired size and the sides thereof are inclined or tapered inwardly from their upper to their lower edges, at a greater angle than the inclination of the sides of the receptacle 1, the purpose of which will be hereinafter and more particularly described. As stated, the member 5 is movable on the guide rods 3, and in order to retain said member in any predetermined position, the clamping members 6 are provided thereon and thus, the lower end or substantial apex of the hood or radiator 5 may be lowered to any desired distance within or above said receptacle 1. A directing or funnel member 8 which is square in horizontal section, is also provided, said directing member having the sides thereof inclined outwardly from its lower to its upper edges, and the corners of this member at the lower edges thereof, are provided with recesses or the like 9 to receive therethrough, the guide rods or wires 3 upon which the same is slidably

mounted. This directing member 8 is preferably positioned between the hood 5 and the receptacle 1 so that the same rests upon the upper edges of said receptacle, and thus when the oil burns in the receptacle and considerable soot collects upon the outer surface of said hood, said soot may be readily conveyed to the burning oil within the receptacle through the medium of this outwardly inclined directing or funnel member. As this soot is conveyed into the burning oil in the receptacle, the same will cause great smoke to flow therefrom and thus, aid considerably in the heating of the surrounding air.

In Fig. 5, I have shown a slightly modified form of device wherein a receptacle 10 formed in the exact manner as said receptacle 1, is provided with the guide rods 11, upon which is slidably and adjustably mounted the hood member 12 and also slidably mounted on said guide rods and resting on the upper edges of said receptacle, is the directing member 13. The forming and positioning of this receptacle, guide rods, hood and flange is substantially the same as in the form heretofore described, but in this instance, an additional member 14 is provided which is substantially the same as the directing members 13, and 8, said member 14, however, being mounted on the guide rods above the hood 12 and having the lower edges thereof resting on the upper edges of said hood. This additional member 14, therefore, forms a continuation or extension of the hood 12 and, thus, will cause the heat to spread to a greater area than is possible without the use of the same.

In practice, the receptacle 1 is filled with oil or other hydro-carbons and the member 5 adjusted on the guide rods 3 so that the lower or tapered end, or substantial apex thereof, extends within the hydro-carbon in said receptacle. Of course, the amount that the lower end of said receptacle extends within the oil, is optional and determined by the operator and when adjusted to the desired position, the clamping members 6 are effectively engaged with the rods 3 to retain said hood or radiator 5 in its adjusted position. The hydro-carbon is then ignited and it will be seen that if the lower end of the member 5 is extended within said hydro-carbon to any extent, whatsoever, the flame will be extended about the sides of said member and caused to flare coincident with the inclination of said sides, and the heat radiating from this flame, will, of course, be spread over a greater area than if no such deflector were provided. As the oil continues to burn in the receptacle, considerable soot will collect on the outer surface of the hood or spreader 5, and after collecting thereon to any appreciable extent, the same

will drop therefrom and be conveyed through the medium of the flange member 8 to the burning oil within the receptacle, which will cause great smoke to rise therefrom and, thus, aid in the heating of the surrounding air. Of course, in the use of the additional flange member, as shown in the modified form, the device will cause the heat to be spread to a greater area and the use of this is entirely optional with the operator. As the inclination of the walls of the member 5 is greater than that of the walls of said receptacle 1, it will be seen that when said member 5 is inserted within the receptacle to any appreciable extent, only a small burning surface will be provided, but as the oil diminishes, it will be seen that a greater burning surface will be provided.

This device is an orchard heater, as previously stated, and as such devices, when used, are started at the first snap of cold in the evening, it will be seen that when the colder periods of the night are reached, greater heat will be emitted from a device such as mine, the increase in heat being gradual through the increase in the burning surface due to the varied inclination of the walls of the two members. Thus, with the use of devices such as I have provided, it will not be necessary to increase the number of heaters in an orchard during the colder periods of the year or the colder periods of a day, the same being compensated for through the adjustability of the improved hood or radiator member with respect to the receptacle.

From the foregoing, it will be seen that I have provided an improved orchard heater in which the amount of heat emitted therefrom may be automatically increased as the hydro-carbon or oil therein is decreased. It will further be seen that I have provided an improved radiator or hood member, the walls of which are inclined inwardly from their upper to their lower ends, the inclination thereof being greater than the inclination of the walls of the receptacle disposed therebelow.

I have shown in the drawings and described in the specification, the receptacle and hood member or spreader as pyramidal in design, but it will be readily understood that the same may be of any desired design, whatsoever, and in any instance, the hood member is designed to correspond with the design of the receptacle. It will further be seen that I have provided means for the adjustability of the hood member with respect to the receptacle and means for the retention of said hood in any adjusted position. It will still further be seen that this hood member may be of any desired altitude or depth, so that if desired, the same may be allowed to touch the bottom of the receptacle and still allow a burning surface for the oil, or

said hood member may have substantially no altitude, wherein the same may be used merely as a soot collector and spreader.

While I have particularly described the elements embodying the preferred form of the invention, it will be understood that the latter is capable of various modifications and changes within the scope of the appended claims.

What I claim is:—

1. An orchard heater, comprising a fuel receptacle, guide rods extending vertically from the sides thereof, a hood adjustably mounted on said guide rods, and a directing member inclosing said guide rods and resting on the upper edges of said receptacle.

2. An orchard heater of the class described, comprising a receptacle, a flame deflecting hood adjustably supported above the receptacle, a directing member removably mounted on the upper edges of said receptacle to receive matter from the walls of said hood, and an extension member similarly mounted on the upper edges of said hood.

3. An orchard heater, comprising a fuel

receptacle, guide rods extending vertically from the sides thereof, a flame deflecting hood adjustably supported on said guide rods, a directing member inclosing said guide rods between the hood and receptacle and adapted to rest on the upper edges of the latter, said directing member being adapted to collect matter cast from the walls of the hood and conduct the same into said receptacle, and an extension member also inclosing said rods and adapted to rest on the upper edges of said hood.

4. An orchard heater of the class described comprising a fuel receptacle, a hood adjustably supported thereabove and capable of vertical movement to extend partially therewithin, and a removable extension for the walls of said hood applied to the upper ends thereof.

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

WILLIAM F. WELTY.

Witnesses:

VILAH KYTE,

HUGH W. MORROW.