

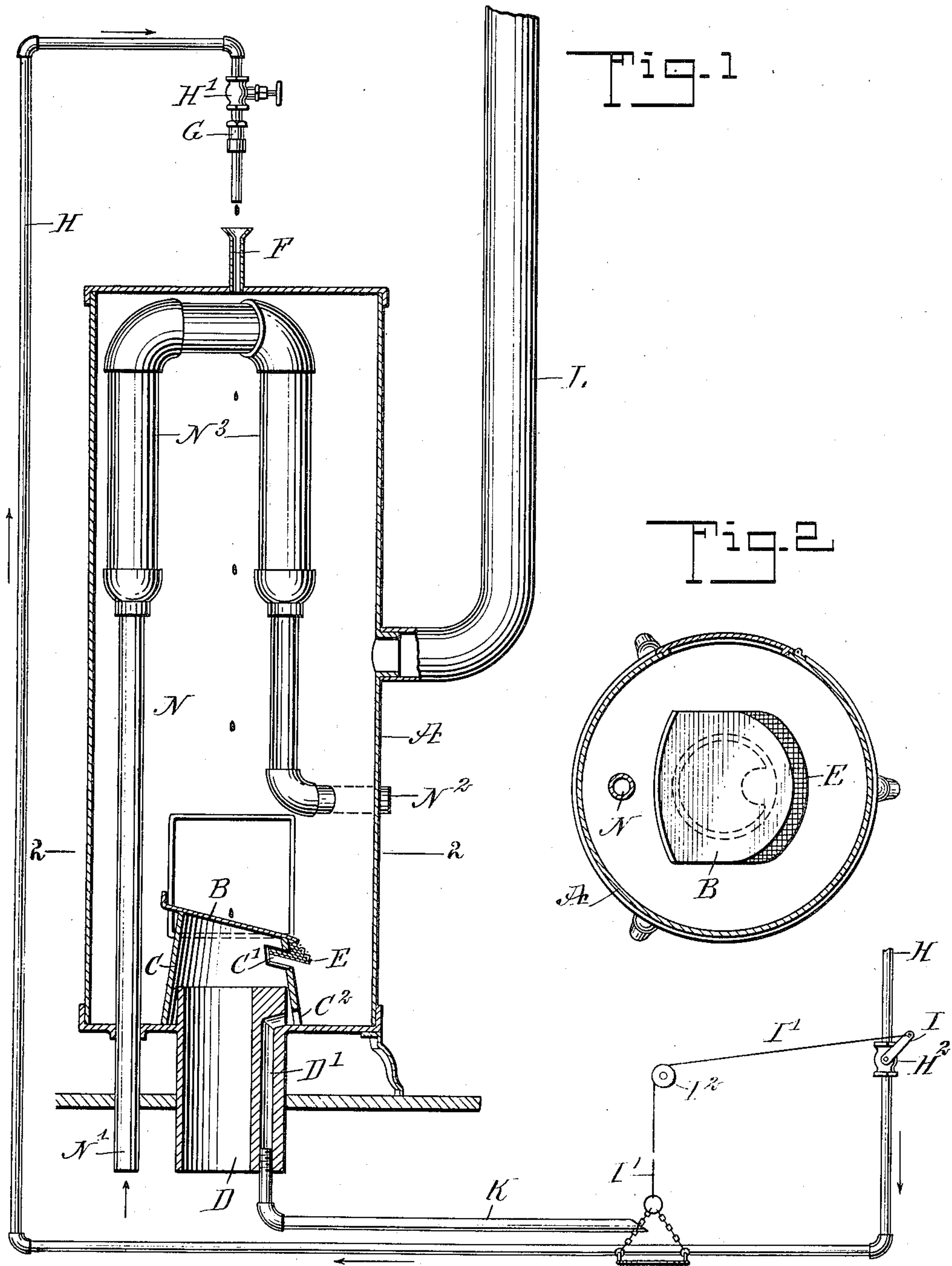
No. 877,406.

PATENTED JAN. 21, 1908.

W. H. CALLIHAN.

HEATER.

APPLICATION FILED FEB. 11, 1907.



WITNESSES
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UNITED STATES PATENT OFFICE.

WILLIE H. CALLIHAN, OF BEAUMONT, TEXAS.

HEATER.

No. 877,406.

Specification of Letters Patent.

Patented Jan. 21, 1908.

Application filed February 11, 1907. Serial No. 356,759.

To all whom it may concern:

Be it known that I, WILLIE H. CALLIHAN, a citizen of the United States, and a resident of Beaumont, in the county of Jefferson and State of Texas, have invented a new and Improved Heater, of which the following is a full, clear, and exact description.

The invention relates to heaters using crude oil or other hydro-carbon oil as fuel, and its object is to provide a new and improved stove or heater, more especially designed for heating rooms and the like, and arranged to insure combustion, to produce a uniform heat at a minimum expenditure of the liquid fuel, and to prevent the escape of obnoxious gases, soot and the like into the room in which the heater is located.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the views.

Figure 1 is a sectional side elevation of the improvement, and Fig. 2 is a sectional plan view of the same on the line 2—2 of Fig. 1.

Within the lower portion of the casing or shell A is arranged a spreader B having an inclined surface, and supported on a hollow base C, into which opens the air supply pipe D extending to the outer air, as plainly indicated in Fig. 1. The lower end of the spreader B terminates in a perforate apron E, in the form of a wire screen or the like, and to the under side of which passes the air by way of an opening C' formed in the hollow base C supporting the spreader B. Now the crude oil or other liquid hydro-carbon fuel drops onto the spreader B from a tube F arranged in the top of the casing A, the liquid hydro-carbon passing into the tube F from a drop feed G connected with a supply pipe H, having valves H', H², and connected with an overhead reservoir, so that the liquid fuel flows by its own gravity from the reservoir through the pipe H into the drop feed G, from which the liquid fuel passes in drops to the tube F, to drop through the upper portion of the casing A onto the spreader B. The liquid fuel in dropping onto the spreader B is minutely divided, and in this state passes onto the apron E, to be there engaged by the

air passing through the meshes or perforations of the apron, with a view to produce a highly combustible mixture burned within the casing A.

The valve H' is set by the operator to regulate the amount of oil passing to the drop feed G, and the valve H² is automatically controlled by the surplus or non-consumed oil collecting on the bottom of the casing A. For this purpose the stem of the valve H² is provided with an arm I engaged by one end of a rope I' passing over a pulley I² and supporting at its other end a receptacle J, into which discharges a pipe K connected with a channel D' formed in the air supply pipe D and registering with a port C² formed in the base C. Thus the non-consumed oil on the bottom of the casing A flows by way of the port C², channel D' and pipe K into the receptacle J, whereby the weight of oil in the receptacle J causes the latter to turn the valve H² into a closed position in case too much oil remains unconsumed in the casing A for the time being.

When the heater is in use, the oil drops from the tube F through the heated interior of the casing A, and consequently a rapid evaporation of the oil takes place by the heating and spreading and the coming in contact with the fresh air, so that complete combustion of the liquid fuel takes place. In case too much oil is fed onto the spreader B and is consequently not consumed, such oil flows into the receptacle J, which causes closing of the valve H², and consequently the supply of oil is cut off for the time being, and until the operator has properly set the valve H' and emptied the receptacle J of its contents and returned the valve H² into normal open position.

The casing A is provided with a smoke pipe L leading from one side of the casing at a point below the top of the casing a distance above the spreader B, as indicated in Fig. 1.

In order to supply a room with heated air, a hot air pipe N is arranged within the casing A, and this hot air pipe N has its entrance N' connected with the outer air and extending through the bottom of the heater A, while the outlet end N² of the hot air pipe N extends through the side wall of the casing A. The upper portion N³ of the air pipe N is U-shaped and is considerably enlarged in diameter relative to the entrance end N', and the outlet or discharge end N², so that the air can readily

expand in the U-shaped portion N³ and be highly heated before passing by way of the discharge end N² into the room.

Having thus described my invention, I
5 claim as new and desire to secure by Letters Patent:

10 A liquid fuel burner, comprising a casing having an air supply pipe in the bottom thereof, a hollow base encircling the pipe, an inclined spreader supported by the base, a perforate apron on the lower end of the spreader, said hollow base having an opening in the side

thereof adjacent to the apron, a drop feed delivering on to the spreader, a supply pipe for the drop feed, and a cut off for the supply pipe controlled by the excess of fuel delivered to the spreader. 15

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

WILLIE H. CALLIHAN.

Witnesses:

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B. H. BARTON.