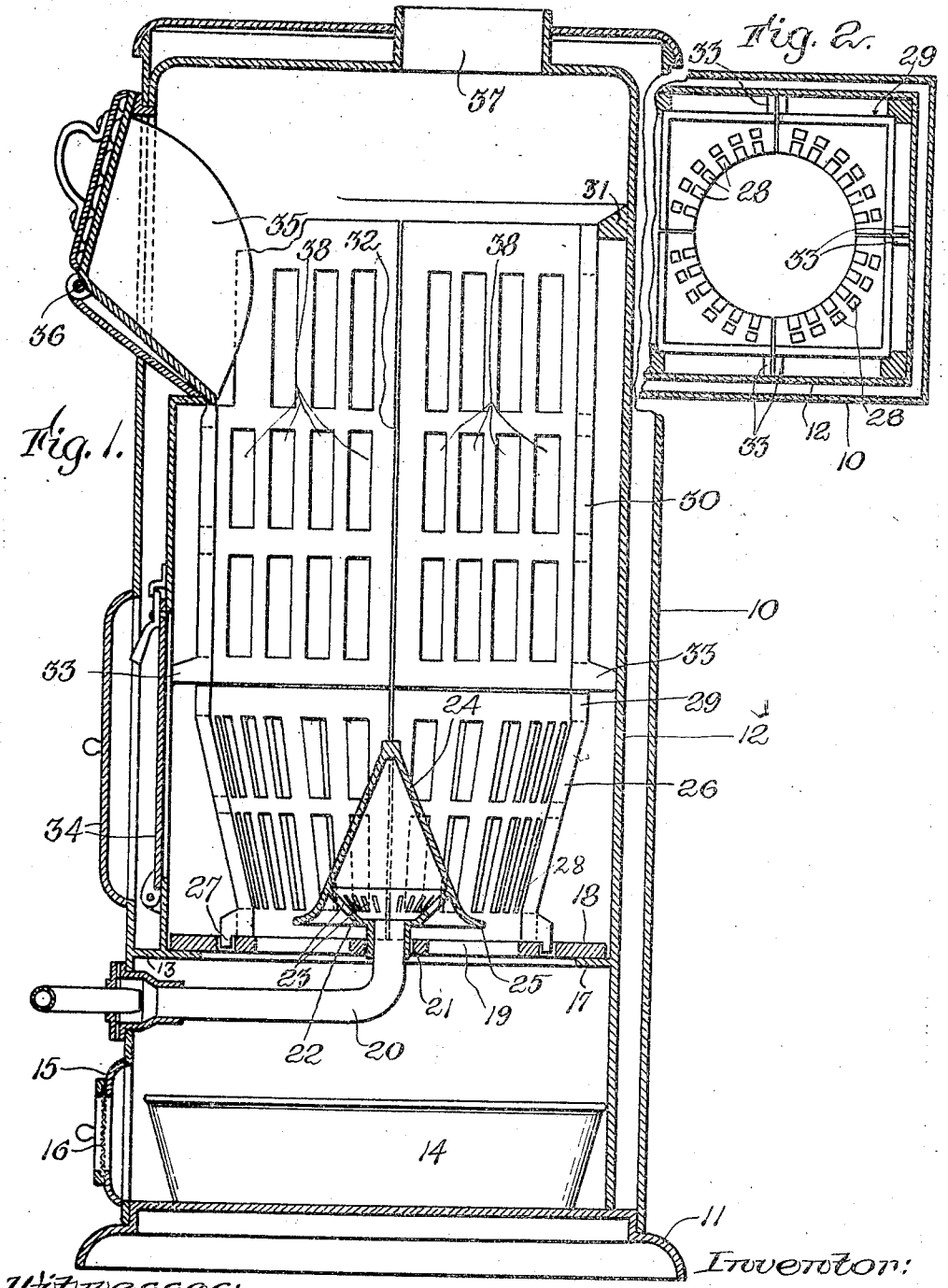
J. PRESCOTT.

REFUSE BURNER.

APPLICATION FILED NOV. 22, 1911.

1,086,855.

Patented Feb. 10, 1914.



Witnesses:
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UNITED STATES PATENT OFFICE.

JESSE PRESCOTT, OF WEBSTER, MASSACHUSETTS.

REFUSE-BURNER.

1,086,855. Specification of Letters Patent. Patented Feb. 10, 1914.

Application filed November 22, 1911. Serial No. 661,756.

To all whom it may concern:

Be it known that I, JESSE PRESCOTT, a citizen of the United States, and resident of Webster, in the county of Worcester and State of Massachusetts, have invented an Improvement in Refuse-Burners, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to burners for the consumption of various forms of household and other garbage and refuse, of the type shown in my copending application Serial No. 708,512.

The present burner is of a type adapted to receive and hold accumulations of garbage in a manner to permit the drying out of the same by air currents passing up therethrough, and is provided with a gas burner arranged in connection with a special form of grates to direct the heat and flame over and through all parts of the garbage mass so that the combustion of the garbage is quickly initiated and completed.

The invention will be better understood from the following detailed description, taken in connection with the accompanying drawings, and will be thereafter pointed out in the appended claims.

Referring to the drawings, Figure 1 is a central vertical section through my improved incinerator through the middle of the doors and stack-connection; and Fig. 2 shows in top plan, on a reduced scale, the upper part of the grate structure, the adjacent supports and shells being sectioned for convenience of illustration.

The burner casing is preferably rectangular and comprises spaced apart inner and outer shells 10, 12 fitted on a suitable base 11, the annular space between the shells serving for heat insulation. The inner shell or receptacle, as shown, does not extend down to the base at the front, but fits a flange 13 inwardly projecting from the outer shell. An ash-pan 14 resting on the base is removable through a lower door 15, this door being of open-work construction protected by fine mesh 16 stretched thereacross. A flange extends inwardly from the receptacle 12 as seen at 17, to provide a support for a horizontal grate 18, which is of slotted construction as seen at 19 and which may, if desired, have suitable dumping provision. A gas supply pipe 20 extends up through a central aperture 21 of the horizontal grate to fit into a burner 22 having a diverging conical portion with a circular series of slits 23 adapted to project the flame downwardly and outwardly through the slots 19 of the grate. A tall conical hood 24 extending well up into the receptacle space closes the top of the diverging conical portion 22, and this hood preferably extends on down below its junction with the portion 22 as an outwardly flaring rim 25 adapted to aid in the direction of the annulus of flame downward and outward. An upwardly, outwardly flaring openwork grate portion 26 engages with the horizontal grate 18, a suitable interlocking connection 27 being shown between these grates. This flaring grate portion is circular at its bottom, as seen at 28, and, at this part, of a size so as to be spaced away from the extremity 25 of the central hood some little distance. This grate changes to a rectangular cross-section at its upper part, and a top flange 29 thereof is spaced away from the receptacle 12 to leave a peripheral space sufficient for the passage of the flame and heated currents thereabout.

A vertical openwork grate portion 30 square in cross section extends upward from the top 29 of the flaring grate, this being spaced away from the receptacle 12 similarly to the top of the flaring grate so that a continuous peripheral space around the grate construction is provided up to the top of the vertical grate 30, at which point the receptacle 12 is provided with a ledge or shoulder 31, the inner edge of which fits against the top of the vertical grate. Both the vertical grate portion 30 and the flaring grate portion 26 are preferably formed in a number of sections, shown as four, the lines of division between sections being indicated at 32, so that the grates may be conveniently assembled in the casing. As there is seldom occasion for disturbing the vertical grate 30, this may be permanently secured and positioned in the inner receptacle, as by suitable lugs 33. As it may be desirable to remove the lower flaring grate at more or less frequent intervals for clearing out or other purposes, the portions of this are preferably arranged for convenient removal through the doors 34 adjacent thereto. A suitable dumping door 35 is pivoted in the top portion of the casing at 36 a short distance above the top of the vertical grate 30, and

a smoke-stack connection 37 extends from the inner receptacle.

Both the flaring grate portion 26 and the vertical grate portion 30 are freely provided with relatively large elongated slots 38 extending vertically of the grates throughout their peripheries, so that while the garbage mass is accumulating and remains in the incinerator, all portions thereof come into contact with the air currents which circulate up through the casing from the openwork door in the base, so that the drying-out of the garbage is greatly expedited. The screen mesh 16 fitted to the ventilating openings in the lower door effectually prevents the entrance of flies and vermin. This drying-out action is promoted by reason of the outwardly flaring portion 26, which causes the air currents to impinge to a greater extent against the garbage within this portion. Likewise, when the gas is ignited, the outwardly projected annulus of flame spreads over and up along the flaring openwork portion to quickly and effectively attack the garbage and, as the heated currents pass upward, being confined in the relatively narrow peripheral space between the receptacle 12 and the vertical grate 30, they tend to converge inward through the slots in the vertical grate to attack the upper part of the garbage. This action is promoted by reason of the fact that the top of this peripheral space is closed by the shoulder 31 so that a vent outlet must be found through some portions of the top of the vertical grate. The conical hood 24 extending up centrally within the receptacle space carries the heat well up into the center of the garbage mass, thus dessicating the center of the mass at the same time that the flame is attacking the periphery thereof.

The incinerator thus constructed is especially well adapted for promoting and quickly effecting the preliminary drying-out of the garbage while it is accumulating and being stored in the receptacle by the circulation of the air currents up through the receptacle, and the continuous openwork construction of the upstanding grate composed of the flaring portion 26 and the straight vertical portion 30 enables the burner flame to attack the garbage much more effectively in all parts thereof than has been the case in previous incinerators known to me.

I am aware that various of the details of construction may be varied without departing from the spirit of the invention, and I therefore do not desire to be limited as to these or in any other particulars except as set forth in the appended claims.

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

1. An apparatus of the kind described, comprising an upright receptacle for garbage or the like having a normally closed opening for the admission of garbage adjacent the top of the receptacle, an openwork grate therewithin composed of a bottom portion, a separately removable outwardly flaring portion, and a separately removable vertical portion forming a continuation of said outwardly flaring portion, said vertical portion extending to substantially the bottom of said opening at the top of the garbage-holding portion of the receptacle, and the receptacle having an inwardly extending shoulder meeting the top of said grate.

2. An apparatus of the kind described, comprising an upright receptacle for receiving and burning garbage, or the like, having an openwork grate therein composed of a bottom portion, a flaring side portion in a plurality of sections, and a substantially vertical portion in a plurality of sections, said vertical portion being adapted to be permanently secured to the sides of a receptacle independently of the flaring portions, while forming substantially a continuation thereof and both flaring and vertical portions being independently removable from the receptacle.

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

JESSE PRESCOTT.

Witnesses:
C. L. ROGERS,
R. G. HERSEY.