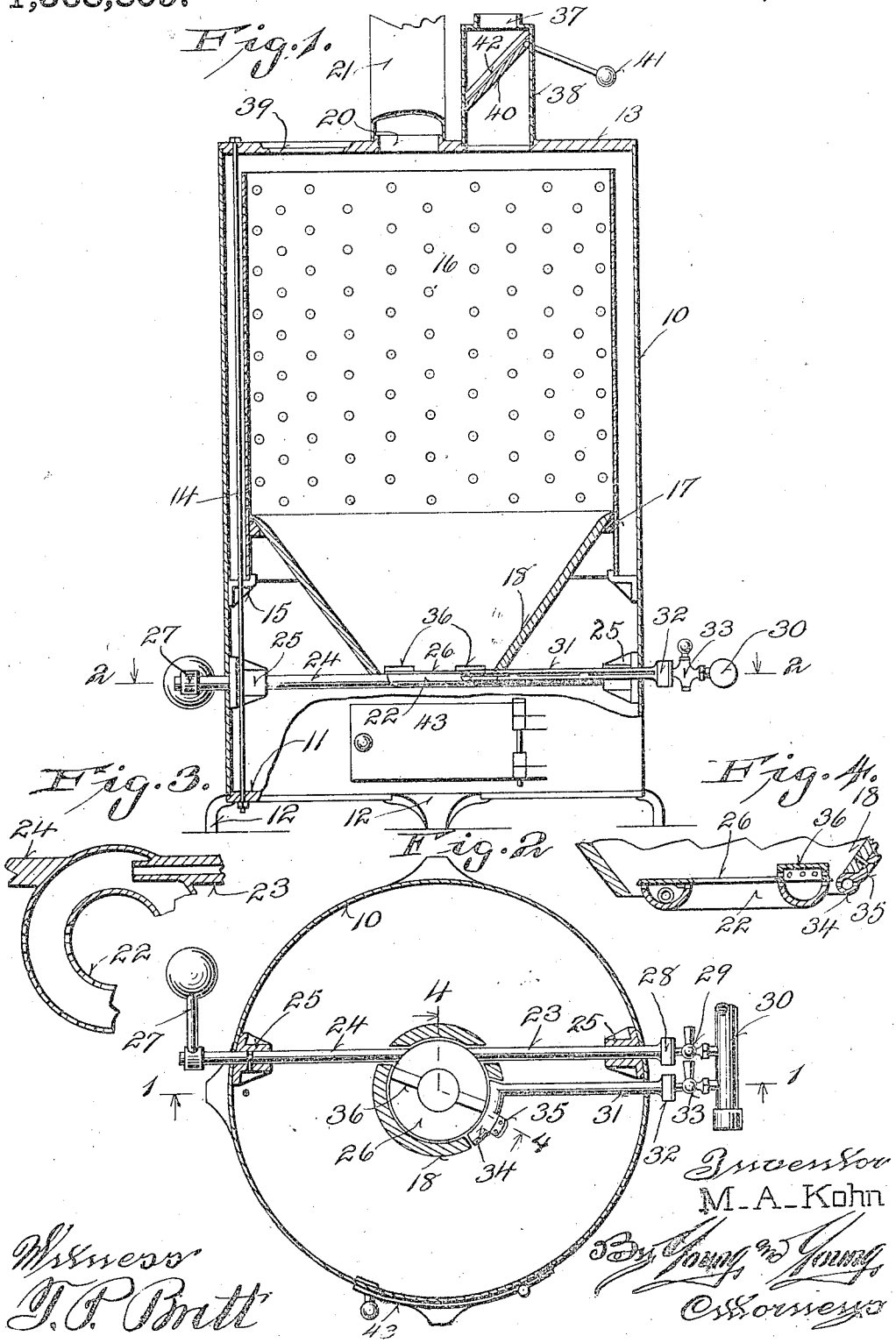
M. A. KOHN.

GARBAGE INCINERATOR.

APPLICATION FILED NOV. 21, 1919.

1,368,809. Patented Feb. 15, 1921.



UNITED STATES PATENT OFFICE.

MATHIAS ANTON KOHN, OF MILWAUKEE, WISCONSIN.

GARBAGE-INCINERATOR.

1,368,809. Specification of Letters Patent. Patented Feb. 15, 1921.

Application filed November 21, 1919. Serial No. 338,616.

To all whom it may concern:

Be it known that I, MATHIAS ANTON KOHN, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Garbage-Incinerators; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to new and useful improvements in apparatus for disposing of garbage or similar refuse by burning the same with the aid of a suitable burner means, the present device being more particularly of that type in which a gas burner is disposed in the bottom portion of the garbage receiving chamber. It is in general the object of my invention to simplify and otherwise improve the structure, and to increase the efficiency and convenience of operation of incinerator devices of this character, and to provide an arrangement preventing the escape of noxious fumes either during the incineration of the garbage, or while the garbage is being collected and stored in the device pending the accumulation of a sufficient amount of garbage to constitute the incinerating charge of the device.

It is more particularly my object to provide an arrangement wherein a proper draft is insured at all times for the burner means of the device, irrespective of the amount and nature of garbage or other refuse matter disposed in the device, thus preventing the possibility of choking the operation of the device and insuring the ultimate complete combustion of the incinerator charge by the action of the burner means thereon.

A further object resides in the provision of a movable burner member which is adapted to form a valve closure for the bottom of the garbage chamber whereby, when the incinerating action has been completed, the bottom of the chamber may be opened to permit the passage therethrough of any non-combustible objects which may find their way into the incinerator charge, for permitting such objects to be readily removed from the device.

A still further object resides in the provision of an arrangement for positively insuring lighting of the various jet apertures of the burner member even under the most unfavorable conditions.

With the above and other objects and advantages in view, which will be apparent as the description proceeds, my invention resides in the novel features of construction, combination and arrangement of the parts as hereinafter described and defined by the appended claims.

In the accompanying drawings:

Figure 1 is a vertical sectional view through a garbage incinerator constructed in accordance with my invention, the plane of this section being indicated by the line 1—1 of Fig. 2.

Fig. 2 is a transverse sectional view therethrough upon the line 2—2 of Fig. 1.

Fig. 3 is a detail sectional view of the body portion of the burner member.

Fig. 4 is a detail sectional view through the burner member on a plane indicated by the line 4—4 of Fig. 2.

Referring now more particularly to the accompanying drawings which illustrate a preferred embodiment of my invention, I provide an outer cylindrical shell or casing 10 which seats on the peripheral shoulder of a base plate 11 supported a slight distance above the floor by legs 12. The upper end of the casing has similar shoulder engagement with a top plate 13, and tie rods 14 are passed through said plates, extending adjacent the inner periphery of the casing wall 10 to hold these parts in assembled relation. A series of brackets 15 are disposed circumferentially about the wall 10, extending radially inward and shouldered to support a perforated cylindrical wall 16 in concentric spaced relation to the wall 10, the upper end of the wall 16 terminating a short distance below the top plate 13. A seating ring 17 is secured within the lower portion of the wall 16 and the mouth of a bowl shaped member 18, preferably formed of a casting, is seated on said ring 17, said member 18 extending below the lower edge of the wall 16 and having a central bottom aperture. The perforated wall 16 and bowl shaped member 18 thus provide a refuse chamber having its lower end portion taperingly reduced, said chamber being entirely surrounded by an air space which is in communication with a draft opening 20 in the top plate, from whence a pipe 21 may extend to a chimney or other desired point of discharge.

In my device, the burner member forms a movable closure for the bottom of the refuse chamber, and thus in the present structure I provide an annular trough shaped burner

body 22 from which a supply pipe 23 extends in a substantially tangential direction. A shaft section 24 also extends from the burner body in alinement with the pipe and said pipe and shaft section are journaled in brackets 25 carried by the lower portion of the outer wall 10 and so positioned that the burner is adapted to close the bottom of the member 18, with its axis of pivotal movement disposed at one side of said bottom whereby the burner may swing downwardly and laterally to open the bottom of the refuse chamber. The upper edges of the burner trough 22 are provided with jet notches and an annular plate 26 is secured over said trough, with its edges projected past the sides of the trough to protect the burner jet openings from possible clogging by fluid or semi-fluid portions of the incinerator charge. The shaft section 24 is extended outwardly of the casing wall 10 and a weighted handle 27 is secured thereto which normally holds the burner in operative position. The pipe 23 is also extended outwardly of the casing and terminates in the usual mixer head 28 for cooperation with the discharge nozzle of a valve member 29 carried by a gas supply pipe 30.

For lighting the burner, a pipe 31 is extended into the casing, preferably parallel to the pipe 23, said pipe 31 having a mixing head 32 supplied from a second gas valve 33 carried by the pipe 30. The inner end of the pipe 31 has an arcuate extension 34 conforming to a portion of the periphery of the main burner, and said pipe and its extension are provided with ignition slits whereby the flame of a match applied to the pipe exteriorly of the casing will be carried along the pipe and the arcuate extension to ignite the main burner, after which the valve 33 would be closed to shut off the igniter device. The arcuate section 34 is supported by a lug 35 upstanding therefrom and secured to the adjacent portion of the member 18. For insuring progression of flame across the burner under adverse ignition conditions due to the packing or wet nature of the refuse, a pair of radial channels 36 are extended across the top of the burner, said channels having series of jet apertures in their sides and one of the channels is located immediately adjacent the arcuate igniter section 34.

I have thus provided an exceedingly simple, highly effective and wholly non-chokable incinerator device. In the operation thereof garbage or other refuse material difficult of combustion may be supplied to the refuse chamber either through a chute 37 extending from any convenient point of discharge and communicating with a casing 38 disposed on top of the plate 13 or may be supplied through a suitable closed aperture 39 in the plate. A valve plate 40, counter-balanced by an arm 41 is pivotally mounted in the casing 38 and is normally urged obliquely of the casing and into engagement with side ledges 42 in the casing thus forming a closure against passage of noxious fumes upwardly through the chute, the valve plate yielding readily to permit garbage to drop through the chute into the refuse chamber. Garbage may be accumulated in the refuse chamber until a sufficient amount has been collected to warrant economical operation of the device. The burner is then lighted, and the flames will pass upwardly through the member 18 forming the tapered lower portion of the refuse chamber, the products of combustion passing outwardly through the perforations in the wall 16 so that the draft is not clogged. Should the member 18 be completely choked with refuse, sufficient air may be admitted through the door 43 to ignite the gas and gradually dry out the matter contained in the member 18 so as to procure eventually the proper combustion conditions. My device is therefore wholly non-chokable. As the refuse is consumed it will automatically feed downwardly into the member 18 which forms what may be termed the fire pot of the device, and when the incinerating action has been wholly completed, the burner member may be tilted to discharge into the bottom of the main casing ash or non-combustible material, which may be removed from the device through a suitable clean out and draft door 43.

While I have shown and described a preferred embodiment of my invention, it will be appreciated that various changes and modifications of structure may be employed to meet differing conditions of use and manufacture, without departing in any manner from the spirit of my invention.

What is claimed is:

1. An incinerator of the class described comprising a main casing, a draft outlet in the top of the casing, inwardly extending brackets on the lower portion of the wall of the casing, a perforated cylinder seated on said brackets and spaced from said main casing, a seating ring mounted in the lower portion of the perforated cylinder and attached to the wall thereof, a taperingly reduced member having its upper portion seated on said ring and forming a refuse chamber in conjunction with said cylinder, and a burner for the lower portion of the chamber.

2. An incinerator of the class described comprising a refuse chamber having a taperingly reduced lower portion and a gas burner pivotally mounted at the bottom of said taperingly reduced lower portion of the chamber and normally extending across the bottom, said burner being movable downwardly to open the bottom of the chamber.

3. An incinerator of the class described comprising a refuse chamber having a taperingly reduced lower portion, a burner, a gas supply pipe extending from the burner, a shaft section extending from the burner in axial alinement with the pipe, and journals for said pipe and shaft section whereby said burner is pivotally mounted at the bottom of the refuse chamber to normally close said bottom, said burner being movable downwardly to open the bottom of the chamber.

4. An incinerator of the class described comprising a main casing, a refuse chamber disposed in the main casing and having a taperingly reduced lower portion, a burner, a gas supply pipe extending from the burner and journaled in the wall of the main casing, a shaft section extending from the burner in axial alinement with the pipe and journaled in the opposite wall of the casing, said burner being positioned at the bottom of the refuse chamber, and a weighted arm on the shaft section exteriorly of the casing normally holding said burner in a position closing the bottom of the refuse chamber.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin.

MATHIAS ANTON KOHN.