A. L. SCHELLHAMMER.

INCINERATOR FOR GARBAGE, EXCREMENT, &c.

APPLICATION FILED JULY 25, 1910.

1,092,080. **Patented Mar. 31, 1914.**

2 SHEETS—SHEET 1.

Fig. 1.

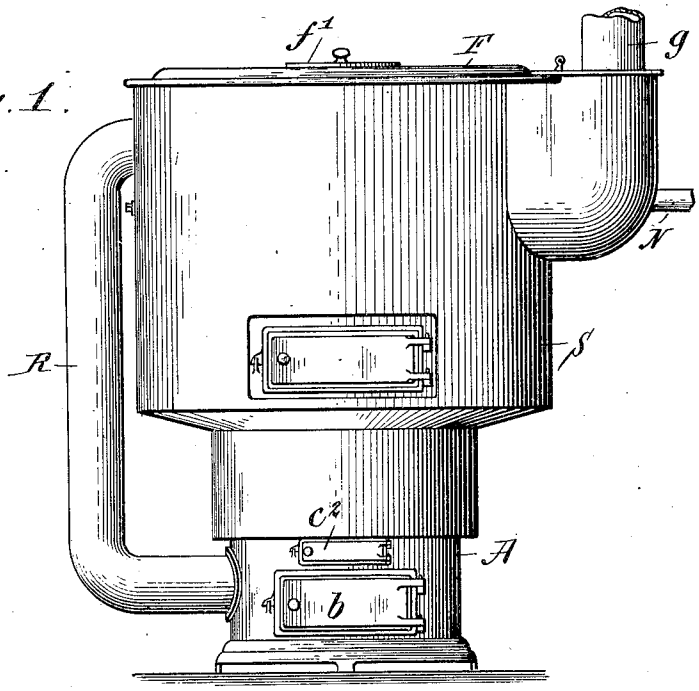
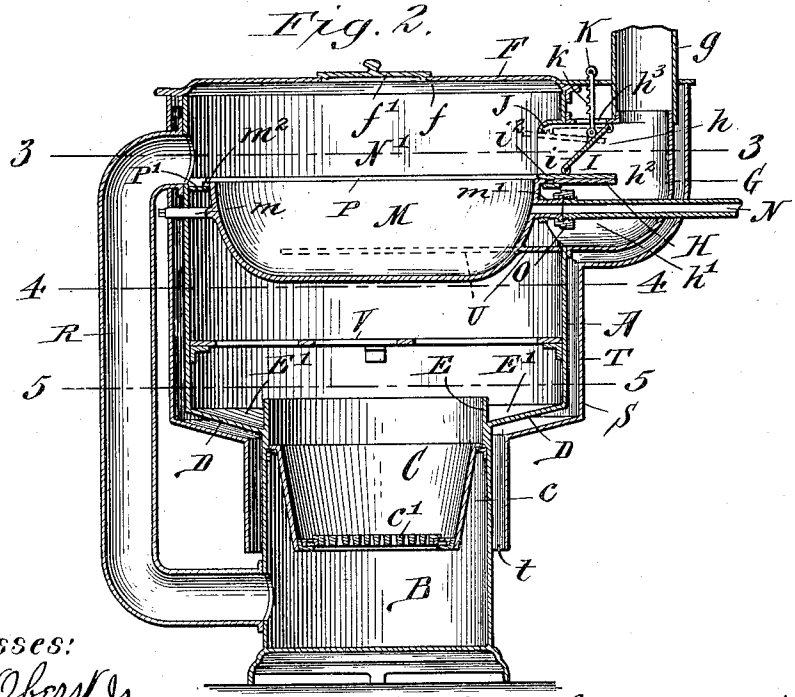


Fig. 2.



Witnesses:
Jacob Oberst, Jr.,
Edward Neuckhahn.

Alfred L. Schellhammer Inventor.
By Emil Reinhardt
Attorney.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 3.

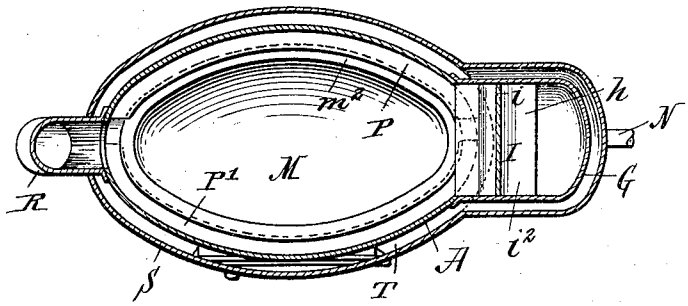


Fig. 4.

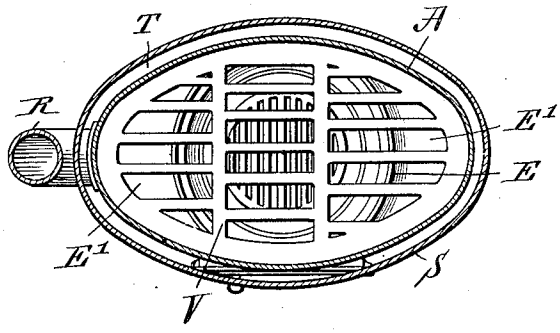


Fig. 6.

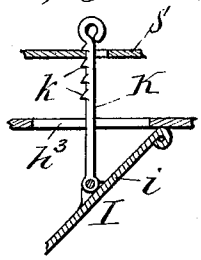
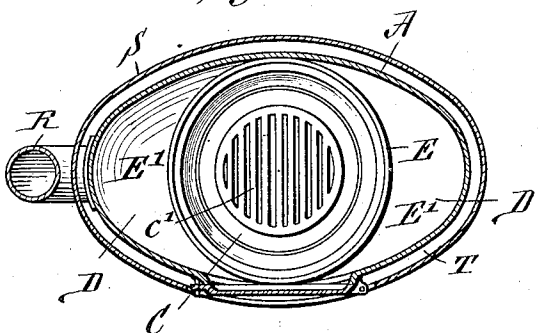


Fig. 5.



Witnesses:

Jacob Obersk, Jr.,

Ella C. Rueckheim

Alfred L. Schellhammer,
Inventor.

By Emil Neuhart
Attorney.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALFRED L. SCHELLHAMMER, OF WARREN, PENNSYLVANIA, ASSIGNOR TO UNITED STATES INCINERATOR COMPANY, OF BUFFALO, NEW YORK, A CORPORATION OF NEW YORK.

INCINERATOR FOR GARBAGE, EXCREMENT, &c.

1,092,080. Specification of Letters Patent. Patented Mar. 31, 1914.

Original application filed September 3, 1909, Serial No. 516,062. Divided and this application filed July 25, 1910. Serial No. 573,627.

To all whom it may concern:

Be it known that I, ALFRED L. SCHELLHAMMER, a citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in Incinerators for Garbage, Excrement, &c., of which the following is a specification.

My invention relates to improvements in incinerators for the disposal of garbage, excrement, and other matter, the presence of which would lead to unsanitary conditions and become dangerous to health.

This application is a division of my application, Serial No. 516,062, filed September 3, 1909.

The primary object of my invention is to provide a simple, efficient and inexpensive incinerator for the purpose mentioned, which could be constructed for permanent use in all places where sewers do not exist, particularly for private and boarding houses, hotels, factories, and other structures in suburban or country locations; also for temporary use in portable form for camps, or where a large number of persons are employed in the construction of roads, canals and other improvements, and wherever the disposal of garbage, excrement, and other matter by incineration may be found desirable.

Another object of my invention is to so construct an incinerator that all obnoxious matter may be effectively disposed of in a quick and convenient manner without the escape of offensive odors.

With these and other objects in view, this invention consists in the construction, arrangement, and combination of parts to be hereinafter described and particularly pointed out in the subjoined claims.

In the drawings,—Figure 1 is a front elevation of an incinerator embodying my invention. Fig. 2 is a central vertical section of the same. Fig. 3 is a horizontal section, taken on line 3—3, Fig. 2. Fig. 4 is a horizontal section, taken on line 4—4, Fig. 2. Fig. 5 is a horizontal section, taken on line 5—5, Fig. 2. Fig. 6 is a sectional elevation showing in detail the manner of supporting and adjusting the closure plate of the draft box.

Referring now to the drawings in detail, like letters of reference refer to like parts in the several figures.

The reference letter A designates a metallic casing having at its lower end an ash-pit B which may be provided with a door *b* through which ashes can be removed. Above the ash-pit is a fire-chamber C having an upper and a lower portion, the lower portion having sloping side walls separated from the casing by an intervening space *c*. Said fire-chamber has grate-bars c^1 to which access can be had for shaking them through an opening closed by a door c^2.

The casing is preferably cylindrical from the bottom to the upper end of the fire-chamber and from approximately such point it is of oval or other elongated formation in cross-section so that it overhangs the lower cylindrical portion at diametrically opposite points, forming substantially a casing having an enlarged upper end. The lower end of the laterally-extending portion of the casing is closed by sloping walls D and where the latter meet the upper end of the lower cylindrical portion, an upwardly-extending cylindrical flange E is provided which forms the inner walls of two overflow receptacles E^1, provided for a purpose to appear hereinafter and the upper portion of the wall of the fire chamber. Although I have herein shown and described two overflow receptacles, this merely results from the particular shape of the casing. It is therefore apparent that if the casing were otherwise shaped a single overflow receptacle may be created or more than two.

The upper end of the casing is closed by a wall F having a seat opening *f* fitted with a removable cover f^1 and at one side near its upper end is a combined draft and smoke-box or chamber G to which is applied a smoke-pipe *g* adapted to rise to a sufficient height to provide the necessary draft.

Located in the combined draft and smoke-box is a horizontal wall H which divides the box into two parts *h*, h^1, one a draft-box, the other a smoke-box. These parts are connected at one end by a passage h^2 and in the upper wall of the draft-box *h* is an air inlet opening h^3 adapted at certain times to be closed by a damper I located in the draft-box. Said damper comprises a closure plate *i* hinged to the upper wall

of the draft-box in rear of its inlet opening and a deflector-plate i^2 hinged to the free end of said closure plate, the point of its connection to said closure-plate being near its inner end so that it hangs unbalanced from said closure-plate when the latter assumes an intermediate position between that shown in full lines and that shown in dotted lines Fig. 2, thus closing communication between the smoke-pipe and the upper end of the casing, which condition exists until the closure-plate approaches the end of its upward movement. By raising the closure-plate, the passage between the upper wall of the draft-box and the horizontal wall H is opened, but it is restricted according to the extent to which said plate is raised. However, not until the closure-plate passes through the last part of its upward movement does the outer end of the deflector-plate rise from the wall H to open communication between the upper end of the casing and the smoke-pipe. For the purpose of causing the deflector-plate to rise from the wall H, a lip J is provided which extends inward and downward from the wall of the casing and is adapted to be engaged by the deflector-plate at a point inside of its pivotal connection to said closure-plate, thus causing the outer or heavier end of said deflector-plate to rise. For the purpose of adjusting the damper, a handle K is provided which is pivotally secured to the closure-plate i and is retained in any adjusted position by teeth k formed thereon, any one of which is adapted to engage the wall of the inlet opening h^3. This handle may be otherwise constructed and attached, as various ways will suggest themselves to hold the damper in any adjusted position.

Located in the casing A directly above the fire-pot is a pot or kettle M for the garbage, excrement, or other matter; it being pivotally mounted so that the contents may be dumped after incineration, or when partly incinerated, as may be desired. This pot or kettle is preferably of oval formation, as shown in Fig. 3; but when the casing is shaped different than herein shown and described, it may be desirable to change the shape of the kettle also. One of the pivots, marked m, is journaled to rock in the wall of the casing and the other m^1 in the end of a conduit N supported by the wall of the combined draft and smoke-box. Said pivots are, by preference, coincident with the transverse center of said pot or kettle, the pivot m^1 being hollow and connected to the conduit N by a coupling O which permits rocking of said pivot. The end of the pivot m extends through the casing and its extremity is made square so that a crank (not shown) may be placed thereon to dump the pot or kettle. The conduit N may be connected with a urinal or it may be used to conduct any liquid matter to the pot or kettle.

The pot or kettle M has an outstanding flange m^2 at its edge, which bears against the underside of a plate P and against the upper side of a plate P^1 so arranged that they close the upper end N^1 of the casing from the space below, yet permit the pot or kettle to be rocked to dump the contents therefrom. These flanges do not, however, close the space N of the casing from the space below in a water-tight manner, as will appear hereinafter.

The upper end of the casing is connected with the ash-pit by a draft-flue R arranged outside of the casing, and surrounding the casing is a jacket S which extends from a point approximately in line with the grate of the firepot to the top of the casing and also surrounds the combined draft and smoke-box G forming part of said casing. The jacket S forms an air-chamber T open at its lower end, as at t, and the air entering said chamber rises therein, is heated by contact with the walls of the casing, and enters the upper end of the latter through the inlet-opening h^3 in the draft-box. This heated air passes over the top of the pot or kettle, carrying with it all odors and germs rising from the matter therein. With these odors and germs it is then drawn down through the draft-flue R, into the ash-pit B and ascends through the fire in the fire-pot; all odors and germs being destroyed by the fire.

The hot gases and smoke from the fire ascend and act against the pot or kettle, but to prevent the gases from escaping directly out through the smoke-box h^1, said pot or kettle is equipped with an outstanding flange U arranged horizontally between its top and bottom and preferably in line with the bottom of said draft-box. This flange acts as a baffle-plate and extends partly around the pot or kettle so as to leave an opening only at that end of the kettle opposite the smoke-box. The hot ascending gases are therefore compelled to travel to the left in Fig. 2, after striking the bottom of the pot or kettle and its baffle-plate, and thence to the right between said plate and the plates P, P^1, and in contact with opposite sides of said pot or kettle, and finally into the smoke-box h^1, from whence escape is had through the smoke-pipe.

As some matter, especially urine, will boil over the edge of the kettle, the overflow receptacles E^1 will receive the same, and as these receptacles are thoroughly heated by the hot gases and flames striking their inner walls, the contents will be quickly consumed. The fluid overflowing the upper edges of the pot or kettle, escapes between the flange at the upper edge of the latter and the plates P, P^1 due to their not being in water-tight contact and as there must be sufficient space

between the adjacent ends of the plates P, P^1, to permit the kettle to be dumped, this allows quite free escape for the fluid.

In order to accelerate the process of incineration, I preferably provide a grate V between the pot or kettle and the fire-pot, and when the process of incineration has been carried on to a certain point the contents of the pot or kettle may be dumped upon said grate, where the process will be completed in a shorter period of time than if left in the kettle. This, however, could not well be done until the odors, germs, and moisture have been freed from the contents, as they would be carried out through the smoke-pipe, which it is my intention to avoid by passing such matter through the fire-pot where they will be completely consumed.

When it is desired to incinerate certain matters without first passing the fumes thereof through the fire-pot, the damper may be raised in the manner shown in dotted lines Fig. 2. When the damper is in such position, the odors are drawn directly out of the smoke-pipe with the smoke and hot gases passing through the lower part of the draft-box.

If desired the air-space T may be omitted and the outer unheated air drawn directly into the air-opening h^3, also the grate V may be dispensed with and the contents of the pot or kettle, after incineration, dumped directly onto the fire to be consumed.

Other changes and omissions may be resorted to without departing from the spirit of my invention or sacrificing any of the advantages thereof.

Having thus described my invention, what I claim is,—

1. An incinerator comprising a casing having a seat opening in its top wall, a kettle in said casing beneath said seat opening having pivots at opposite points, one of said pivots being hollow and opening into said kettle, a fixed liquid conduit connected to said hollow pivot and extending therefrom to a point outside of said casing, said conduit being connected to said hollow pivot to permit dumping of said kettle, and a fire chamber located beneath said kettle.

2. An incinerator comprising a casing having a fire chamber and a combined draft and smoke box, said draft and smoke box having a divisional wall spaced from its outer wall and forming two connected parts arranged one above the other and an air inlet opening in its top wall, a damper in the upper part of said box adapted to control said inlet opening, a kettle supported in said casing above said fire chamber, an air chamber surrounding said casing and its combined draft and smoke box and having communication with the same through said air-inlet, and a draft flue mainly outside of said air chamber connecting the space above said kettle with the space beneath said fire chamber, one end of said draft flue extending through said air chamber.

3. An incinerator comprising a casing having a fire chamber, a kettle above said fire chamber in which excrementitious matter may be subjected to heat, and a receptacle to receive the overflow from said kettle formed by the walls of said fire chamber and casing.

4. An incinerator comprising a casing having an enlarged upper portion overhanging its lower portion, a liquid receptacle at the lower end of said upper portion, a kettle supported within said casing in a plane above said liquid receptacle and arranged to overflow thereinto, and a fire chamber in the lower portion of said casing having its wall extending into said upper portion and serving as the inner wall of said liquid receptacle, the lower end of the enlarged upper portion of said casing serving as the lower and outer wall of said liquid receptacle.

5. An incinerator comprising a casing having a fire-chamber, a kettle within said casing above said fire-chamber, and an overflow receptacle surrounding the upper end of said fire-chamber and adapted to receive the overflow from said kettle.

6. An incinerator comprising a casing having a fire chamber, a kettle above said fire chamber in which excrementitious matter may be subjected to heat, and a receptacle to receive the overflow from said kettle which the walls of said fire chamber form part of.

In testimony whereof, I have affixed my signature in the presence of two subscribing witnesses.

ALFRED L. SCHELLHAMMER.

Witnesses:

EMIL NEUHART,

ELLA C. PLUECKHAHN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."