Nov. 17, 1925. 1,561,804

C. T. STOHR

INCINERATOR

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Fig. 3

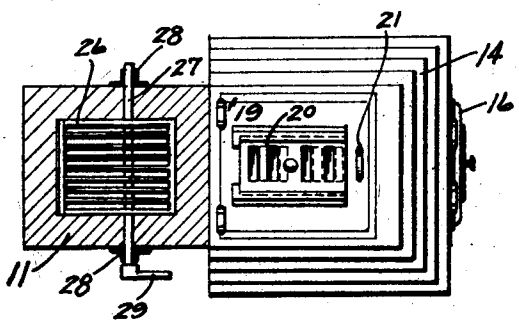


Fig. 4

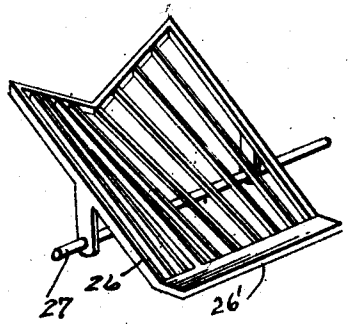


Fig. 2

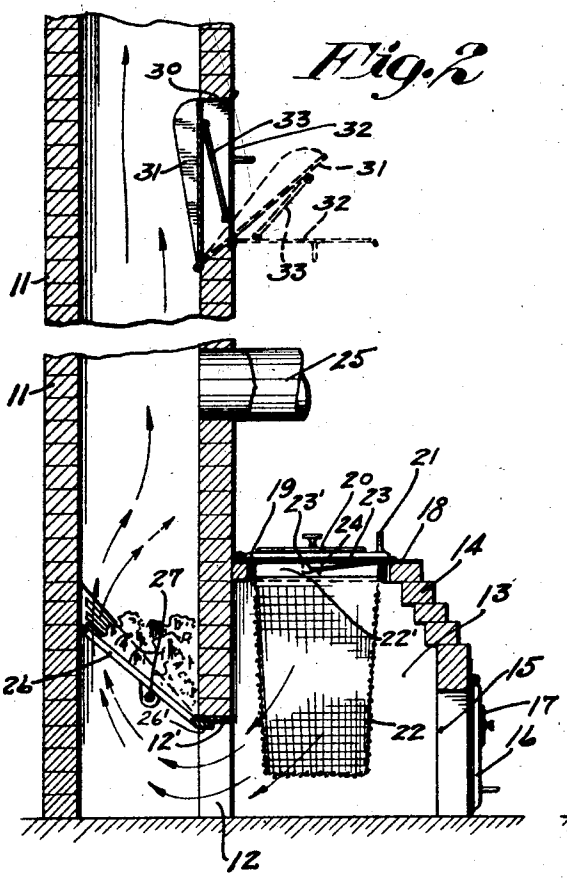
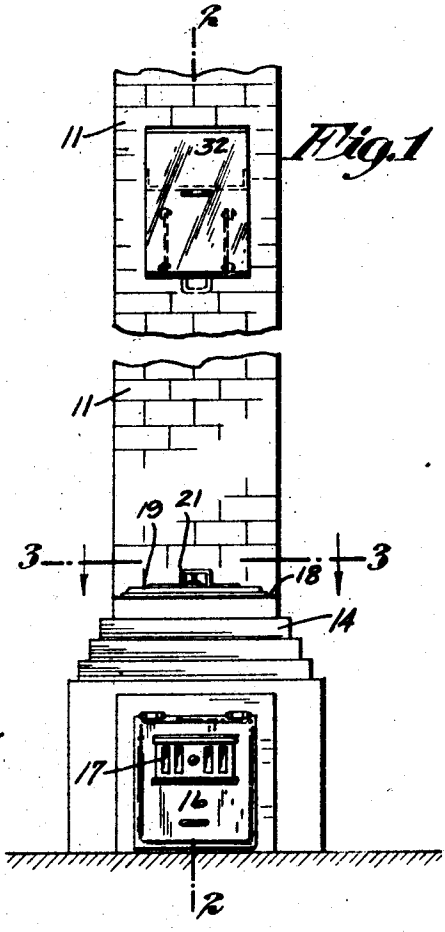


Fig. 1



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Fig. 7

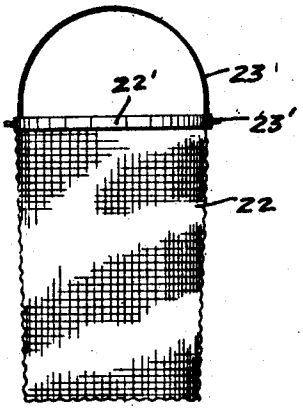


Fig. 6

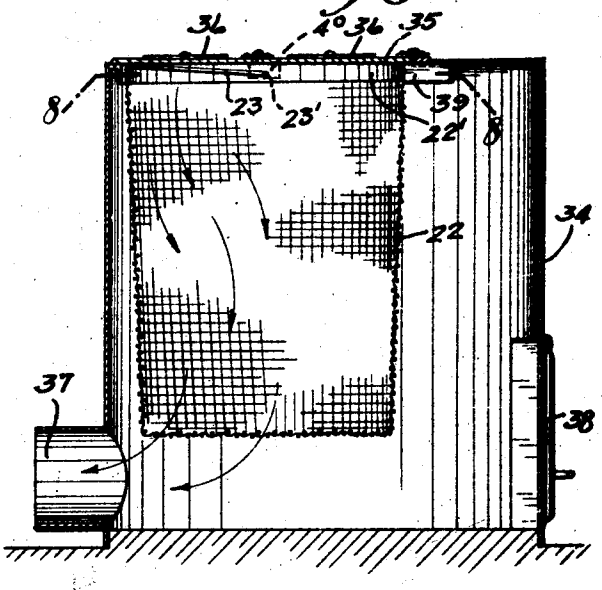


Fig. 8

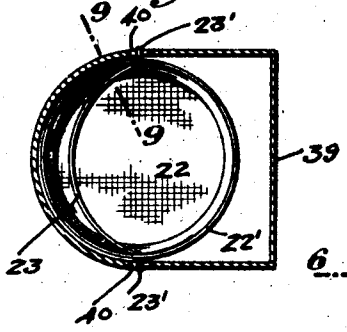


Fig. 5

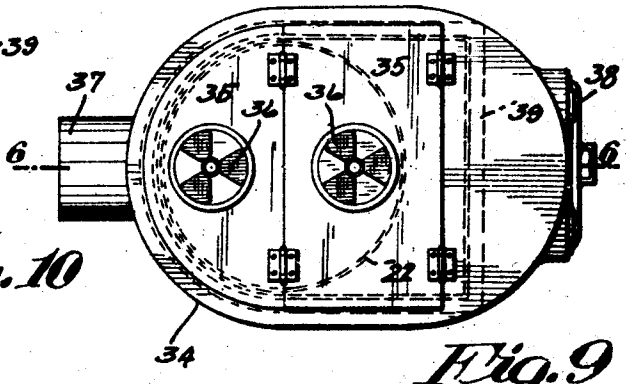


Fig. 10

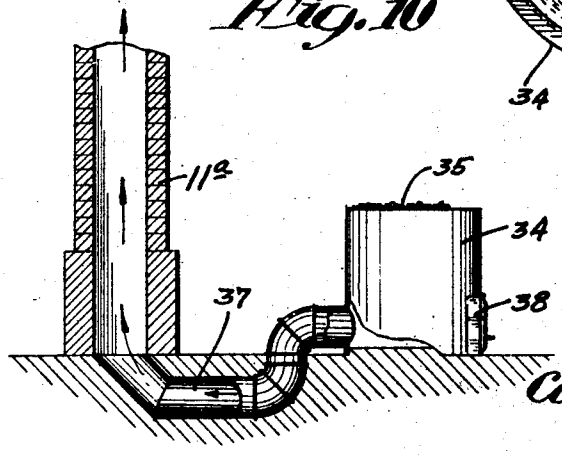
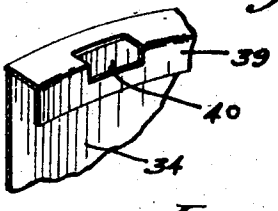


Fig. 9



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Patented Nov. 17, 1925. 1,561,804

UNITED STATES PATENT OFFICE.

CARL THEODOR STOHR, OF ST. PAUL, MINNESOTA.

INCINERATOR.

Application filed February 8, 1924. Serial No. 691,368.

To all whom it may concern:

Be it known that I, CARL THEODOR STOHR, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Incinerators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention provides an improved incinerator adapted for use in flats, apartment houses, and in private dwellings, and capable of being readily installed either at the time that the building is being constructed or at a later time.

Generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a front elevation showing the incinerator and the chimney to which it is applied, some parts being broken away;

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1;

Fig. 3 is a horizontal section on the line 3—3 of Fig. 1;

Fig. 4 is a perspective showing a dumping grate;

Fig. 5 is a plan view showing a modified form of the incinerator;

Fig. 6 is a vertical section on the line 6—6 of Fig. 5;

Fig. 7 is a view in elevation showing a garbage basket forming part of the incinerator;

Fig. 8 is a section on the line 8—8 of Fig. 6;

Fig. 9 is a fragmentary perspective, with some parts sectioned on the line 9—9 of Fig. 8; and

Fig. 10 is a view partly in vertical section and partly in elevation, illustrating one way of connecting the incinerator of Fig. 5 to a chimney.

Referring first to the construction illustrated in Figs. 1 to 4, inclusive, the numeral 11 indicates an ordinary masonry chimney, such as found in flat buildings, apartment houses, and the like. This chimney, in one side or in front, adjacent to the floor of the basement, has a large passage 12, preferably lined by a metallic frame 12′. In this form of the incinerator, the primary incinerating chamber 13 is formed within a brickwork or masonry structure 14, preferably made wider than the chimney but built directly against the same so that the lower portion of the chamber 13 has free communication with the base of the chimney through the passage 12. In its front wall, the brick structure 14 has a cleanout door opening 15 normally closed by a door 16 equipped with a sliding damper 17. The top of the structure 14 is provided with a large opening into which is set a rectangular metallic frame-work 18. To the rear portion of this framework 18 is hinged a top door 19, which has a sliding damper 20 and preferably a lift lug 21. For an important reason, this damper 20 is arranged to slide forwardly and rearwardly so that, when the door 19 is raised, said damper will automatically slide to a closed position. This makes sure that the damper 20 will always be closed after the door 19 has been raised and again lowered.

The numeral 22 indicates a garbage-containing basket made of woven wire and provided with a solid metal rim 22′ to which a lifting bale 23 is pivoted. The trunnions 23′ of the bale 23 project and are engageable with notches 24 formed in the door frame 18, so that the basket will be supported within the primary incinerating chamber 13, as shown in Fig. 2, when the door 19 is closed.

In Fig. 2, the numeral 25 indicates the smoke pipe from an ordinary furnace. Located in the lower portion of the chimney 11, far below the smoke pipe 25, is a dumping grate 26 that is secured to an operating shaft 27 journaled in the sides of the chimney 11 and in bearing brackets 28 on the exterior of the chimney. The shaft 27, at one end, is provided with an operating handle or lever 29. The grate 26 is a cast structure of peculiar form. It is arranged normally to stand obliquely, as shown in Fig. 2, and is formed V-shaped at its upper end where it engages with the rear wall of the chimney. At its front edge, the grate 26 is provided with a transverse flange 26′ that normally projects into the passage 12 and engages the upper portion of the frame 12′. It is important to note that the shaft 27, which forms the pivot for the grate 26, is located considerably forward of the center of gravity of said grate, so that the grate will normally stand in the

operative position shown in Fig. 2. Nevertheless, said grate may be readily tilted so as to dump the ashes, clinkers, bottles, cans and the like from time to time. The concave or V-shaped cross section of the grate causes the non-combustible articles to collect at the center of the lower portion of the grate.

When the incinerator is applied in a flat building, or apartment house, garbage doors will be provided at the various different floors, so that garbage may be dropped onto the grate 26. In Figs. 1 and 2, I have shown a type of dumping door structure advisably used for the purpose just stated. As shown, this door structure comprises a cast rectangular door frame 30 to which is pivoted a discharge spout 31 and a door 32. The door 32 is connected to the spout 31 by a link 33, so that when the door is in its horizontal open position, the spout 31 will be in its inclined position, as indicated by dotted lines in Fig. 2, and when said door 32 is closed, the spout 31 will be turned into a vertical position at the inner portion of the door frame. This door structure forms a very tight joint when closed, and when open, a very convenient device for the proper delivery of the garbage into the chimney.

Much of the garbage and a large amount of paper will be accumulated and dumped into the basket 22. For some purposes, such as private dwellings, this basket will be found the only garbage receptacle required and the combustion may take place entirely from this basket. At any rate, the combustion will be initiated by igniting the paper in the basket 22. When the paper in the basket 22 is ignited and the damper 20 is slipped to an open position, air will be drawn down through the contents of the basket and the paper or combustible substance will be burned with a strong down draft. The flames and products of combustion will, of course, be drawn into the chimney through the passage 12 and up through the grate 26, so that garbage and paper on the said grate will be consumed. The down draft may be modified by opening or closing of the damper 17 in the door 16, but down draft is always available for supporting the combustion.

Sometimes, tin cans, glass bottles, and the like, will be thrown with the garbage onto the grate 26 and these may be discharged from the grate, after the garbage has been burned up, by tilting the grate and thereby causing such objects to roll or fall into the primary incinerating chamber 13, from which latter they may be removed with the ashes through the door opening 15.

The modified form of incinerator shown in Figs. 5 to 10, inclusive, is especially adapted for use in private dwellings or homes, and it may be connected to a chimney, either directly or from a remote point. This incinerator preferably comprises a sheet metal shell 34 provided in its top with a large door opening normally closed by a two-part hinged door 35, the sections of which door are provided with dampers 36. At its bottom, the shell 34 is provided with a smoke pipe 37, which, in the arrangement shown in Fig. 10, is partly imbedded below the floor level and is connected directly to the bottom of the chimney 11^a. Close to its bottom and at its front side, the shell 34 is provided with an ash door opening normally closed by a door 38. The top plate of the shell 34 is provided with a depending flange 39, the front portion of which is semi-circular and the rear portion of which is rectangular. This flange, at diametrically opposite points, is formed with notches 40 that afford open seats for the trunnions 23′ of the basket 22. The large opening in the top of the shell 34 afforded by the flange 39 permits the basket to be freely placed in position or removed, even if nails or like objects should project through the basket.

The basket used in both of the arrangements illustrated is of the same construction and the notches provided for the trunnions 23′ in the top door frame 18 preferably are of the same arrangement as illustrated in Fig. 9.

The sheet metal incinerator last described may be very cheaply made and installed at very small cost and may be serviceable for all places where garbage need not be dumped from several floors directly into the incinerator. Both incinerators described are down draft incinerators. By opening more or less the front and rear dampers 36, the draft may be properly directed through the paper and garbage contained in the basket, and by turning the basket around to shift its position, complete combustion may be accomplished. The removable baskets afford simple means for holding non-combustible objects and for carrying the same out of the incinerator and, at the same time, such a basket affords the best kind of a support for the garbage while it is being burned.

What I claim is:

1. The combination with a chimney, of an incinerator comprising a primary combustion chamber located at the exterior thereof, provided at its top with a damper-equipped door, and at its lower portion connected to the lower portion of said chimney, a removable garbage basket supported within said primary combustion chamber below the damper-equipped top thereof, the top door of said primary combustion chamber being hinged and the damper thereof being arranged to slide to a closed position when said door is opened.

2. The structure defined in claim 1 in which said chimney is provided with a gar-

bage-supporting grate through which the draft from said primary combustion chamber passes upwardly, said chimney further having a garbage-receiving door located above said grate.

3. The combination with a chimney and a primary combustion chamber located at the exterior thereof but connected thereto by a lower draft passage, a garbage receptacle located in said primary combustion chamber, the latter having a draft passage above said garbage receptacle, and a grate located in said chimney above the connection between said chimney and primary combustion chamber.

4. The structure defined in claim 3 in which said grate is a pivoted dumping grate.

5. The structure defined in claim 3 in which said chimney is provided above said grate with a garbage-receiving door.

6. The structure defined in claim 3 in which the garbage receptacle in said primary combustion chamber is a removable basket, the said grate is a pivoted dumping grate, and said chimney is provided above said dumping grate with a garbage-receiving door.

In testimony whereof I affix my signature.

CARL THEODOR STOHR.