United States Patent

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[45] Patented **Oct. 19, 1971**

[54] **INCINERATOR OR SIMILAR ARTICLE**
5 Claims, 4 Drawing Figs.

[52] **U.S. Cl.** ..... **110/18 E**
[51] **Int. Cl.** **F23g 5/10**
[50] **Field of Search** ..... 110/8, 8 E, 18, 18 E

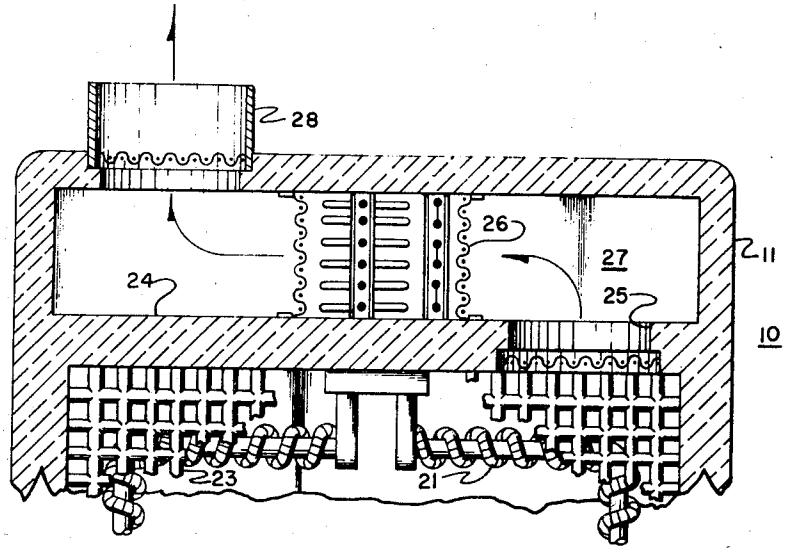
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Attorney—John W. Kraft

ABSTRACT: The incinerator of this invention includes an insulated box having heating means operable to cause combustible products deposited therein to be burned. A grid is provided over the heat means to increase burning of the combustible product. Venting exitways having air filters are provided in the housing to retain exhaust air contaminants. The incinerator is operable to destroy by burning a single combustible product at a time deposited therein.



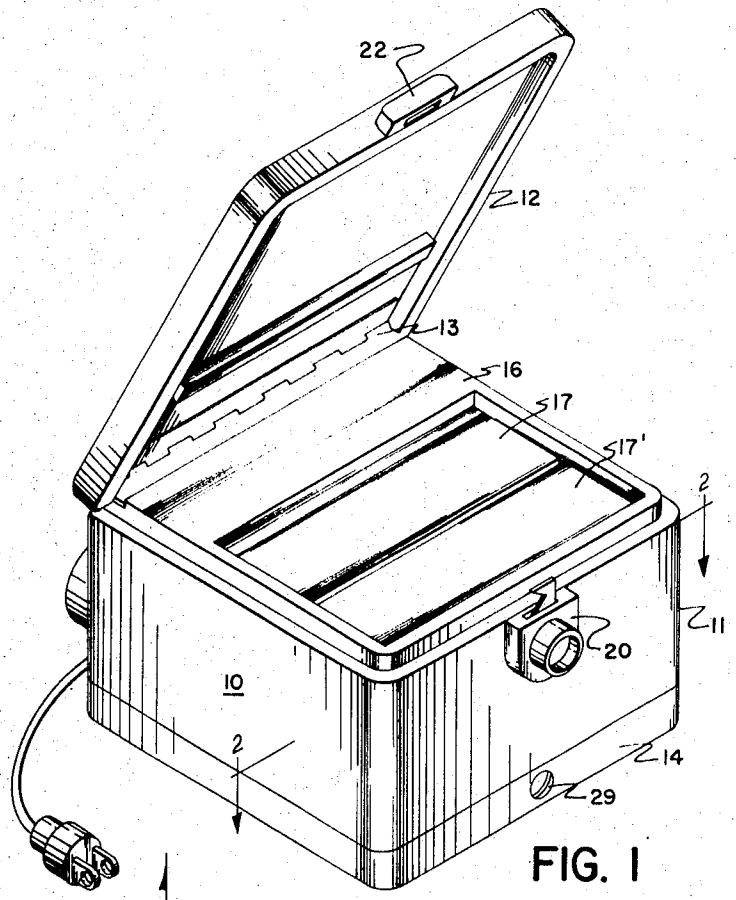


FIG. 1

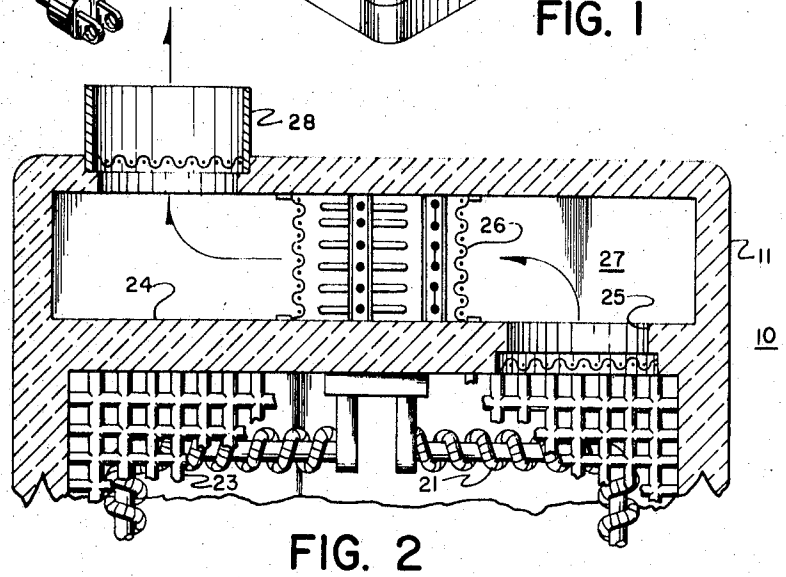


FIG. 2

EDWARD W. HACKER INVENTOR.

BY John W. Light

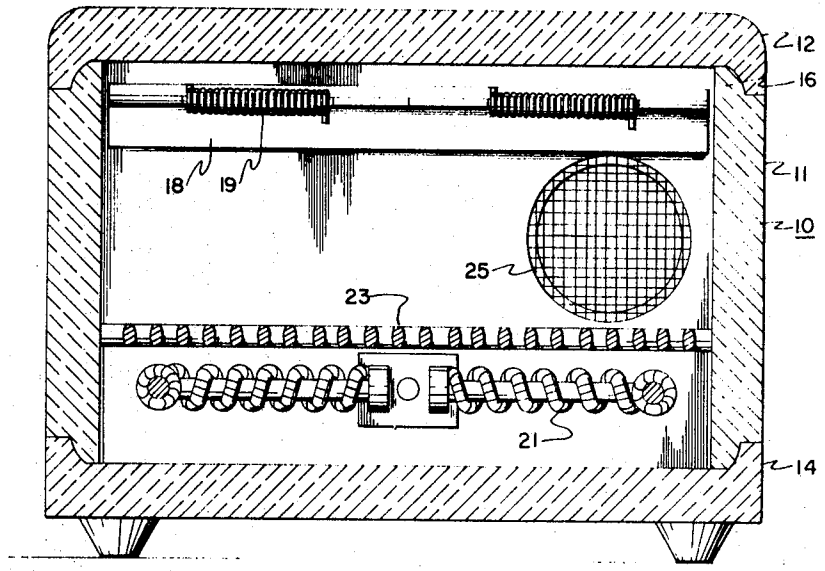


FIG. 3

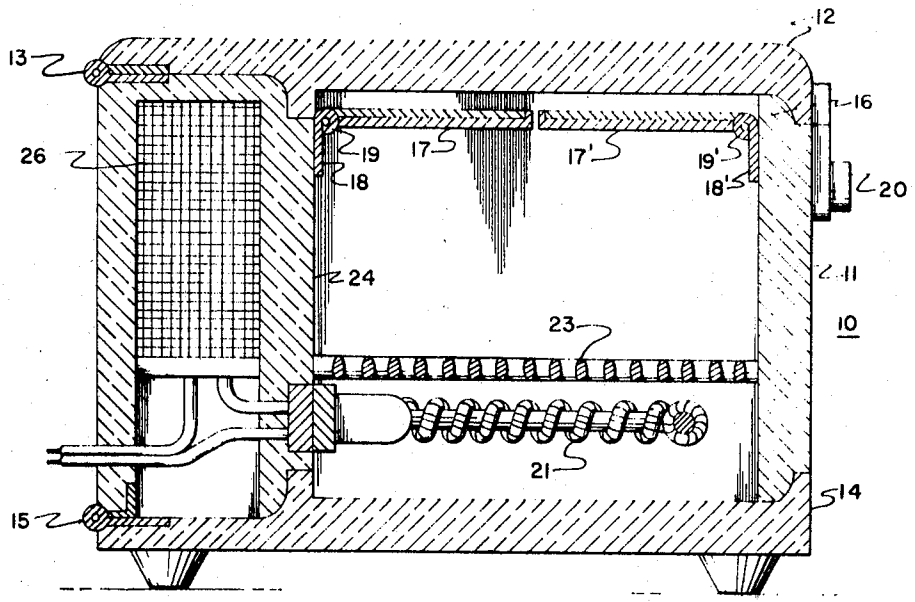


FIG. 4

EDWARD W. HACKER INVENTOR.

BY John W. Fradd

INCINERATOR OR SIMILAR ARTICLE

FIELD OF INVENTION

The present invention relates to an incinerator and more particularly to an incinerator operable to destroy combustible products and to filter exhaust air contaminants and odors.

DESCRIPTION OF THE PRIOR ART

Incinerators generally known in the prior art generally comprise a large combustion chamber into which is deposited a quantity of combustible products intended to be destroyed. The combustible products to be destroyed are usually accumulated until a substantial quantity may be burned at one time, causing an unsightly and unsanitary collection of waste products. Although some incinerators are provided with filters, substantial amounts of airborne contaminants are released into the atmosphere.

Accordingly, it is an object of the present invention to provide an incinerator in which a single combustible product may be destroyed at a time and thereby avoid accumulations of waste material.

Another object of the present invention is to provide a simply constructed incinerator which is inexpensive to operate, and which may be placed in convenient locations near the point of disposal, like waste cans or baskets.

A further object of this invention is to provide in combination with incinerating means an air purifying and filter means.

Generally the incinerator of the present invention comprises a boxlike housing having hinged top and bottom access panels on the housing, an incinerator grid and a resistence heating coil juxtapositioned in the housing and an exitway in the housing to exhaust the products of combustion. Filters are preferably disposed in the exitway to prevent escape of airborne contaminants and odors.

A more thorough and comprehensive understanding may be had from the detailed description of the preferred embodiment when read in connection with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the incinerator of this invention as seen from the top left side and is shown with the access door thereof open.

FIG. 2 is a cross section fragmentary plan view of the invention taken generally along lines 2—2 of FIG. 1.

FIG. 3 is a cross section elevational view of this invention with one of the walls of the housing removed.

FIG. 4 is a cross section elevational view of the invention with an adjacent wall to that wall removed in FIG. 3 removed.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings and more particularly to FIG. 1 which shows the incinerator or similar article of the present invention in a top perspective view and generally designated by the numeral **10**. The incinerator **10** includes a boxlike housing **11** having an access door **12** suitably connected by a hinge **13** at the uppermost terminal side of housing **11** and a panel **14** connected by a hinge **15** at the opposing lowermost terminal side of housing **11**. The sidewalls of the housing **11** preferably include an insulating material. A sealing gasket (not shown) may be provided about the terminal edges of the housing **11** contiguous with the door **12** to seal the housing during the incineration process as hereinafter later described. An intermediate panel **16** integral with the uppermost terminal sides of the housing **11** is provided and disposed so that the panel **16** projects upwardly from the housing **11** to engage with the door **12**. In this manner the quantity of ambient air which may infiltrate the housing may be limited.

The intermediate panel **16** is provided with a pair of biparting closures **17** and **17'** suitably connected by respective hinges **18** and **18'** having springs **19** and **19'** shown to advantage in the cross section elevational side view of the FIG. **4**.

The biparting closures **17** and **17'** are operable to provide access for depositing combustible products in the housing **11** while providing, at the same time, means to safely limit access of hands into the housing **11**.

The housing **11** is provided with a latching means **20** which may include a commonly known mechanically timed switch (not shown) electrically connected to a resistance heating coil **21** disposed in the housing **11**. The latching means **20** is engageable with a lock **22** suitable fastened to the door **12**. A grid **23** is provided in the housing **11** above the resistance heating coil **21** operable to hold combustible products deposited in the housing. It has been found in practice that a grid **23** made from ceramic material suitable heats to aid in the distruction of combustible material deposited in the housing **11** and is more durable.

Referring now to the fragmentary cross section plan view of the FIG. **2** and the cross section elevational view of FIG. **3** with one wall removed, the housing **11** is provided with an intermediate wall **24** including a vented exitway **25**. The chamber formed by intermediate wall **24** and the wall of housing **11** provides a draft plenum which tends to cause the carbon monoxide gases to be drawn away from the burning product to permit the product to continue to burn. It has been found to advantage in practice to provide a charcoal filter in the exitway. Of further advantage is a commonly known electrostatic filter such as shown at **26** and disposed in the chamber **27** formed by the intermediate wall **24** and one of the terminal walls of the housing **11** which includes an exitway **28**.

In operation the door **12** is raised and combustible products intended to be destroyed may be deposited through closures **17** and **17'** onto the grid **23**. When the door **12** is closed and the latch **20** is engaged with the lock **22** on the door **12**. The resistance heating coil **21** and the electrostatic filter **26** are electrically energized. As the coil is heated the combustible product deposited in the housing **11** is caused to burn. The heat in the housing **11** causes a draft from the housing **11** through chamber **27** and consequently through the exitway **25**, the electrostatic filter **26**, and the exitway **28**. The exhaust air is thereby filtered of contaminants and odor.

The FIG. **4** shows to advantage the hinged panel **14**. The panel **14** is provided with a lock **29** shown to advantage in FIG. **1**. By unlocking the lock **29** and opening the panel **14** access to the housing **11** may be had for cleaning and maintenance.

Having thus described in detail a preferred apparatus which embodies the concepts and principles of the invention and which accomplishes the various objects, purposes, and aims thereof, it is to be appreciated and will be apparent to those skilled in the art, that many physical changes could be made in the apparatus without altering the inventive concepts and principles embodied therein. Hence, it is intended that the scope of the invention be limited only to the extent indicated in the appended claims.

I claim:

1. An incinerator comprising an insulated boxlike housing having a pair of access means hingedly connected to the housing at the opposite terminal sides thereof, a grid in said housing, and heat means juxtapositioned in said housing; said grid being operable to suspend a combustible product over said heat means, said heat means operable to cause said combustible product to burn, an exitway in said housing operable to permit products of combustion to be exhausted therefrom, a wall in said housing intermediate said grid and said heat means, and said exitway forming a chamber therebetween, and an exitway in said intermediate wall, said chamber being operable to provide a draft plenum for products of combustion to be drawn away from a product burning in said housing.

2. The article of claim **1** having air filter means disposed in said chamber and said exitway operable to retain airborne contaminants.

3. The article of claim **1** in which heating means comprises an electrical resistance heat coil.

4. The article of claim 2 having a latching means on one of the walls of said housing engageable with one of said access means, said latching means including an electrical switch interconnected with said heating means and a timing mechanism.

5. The article of claim 3 including an electrostatic filter collecting means disposed in said chamber and electrically interconnected with said heat means.