

[54] INCINERATOR

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[51] Int. Cl. A47k 11/02
[58] Field of Search 110/9 R, 9 E; 4/131

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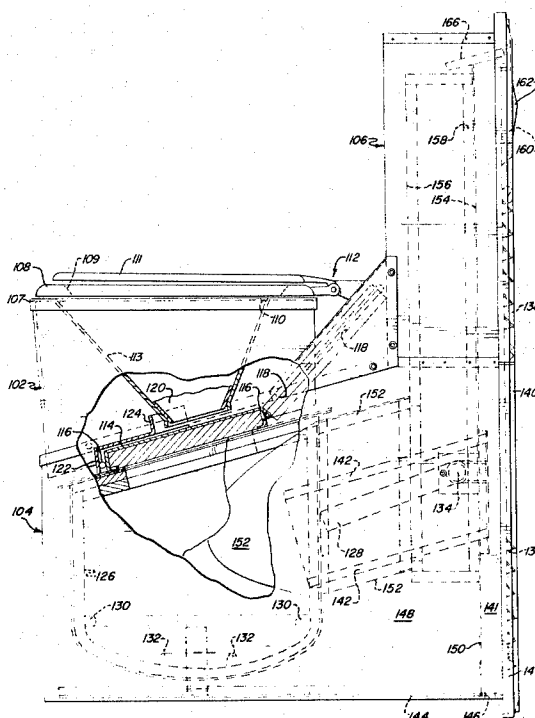
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[57] ABSTRACT

An incinerating waste disposal device which includes a

housing having a receptacle for receiving waste and a combustion chamber below the receptacle for receiving the waste from the receptacle and burning the waste. A passage communicates between the receptacle and the combustion chamber and a slide valve member is movably mounted for sliding transversely of a bottom receptacle opening defined by a lower marginal lip of the receptacle. A burner is disposed within the combustion chamber and is offset to one side thereof to effect a swirling burning action within the chamber as the burner directs a flame into the lower areas of the chamber to facilitate directing combustion gases upwardly from the chamber. A disposable, combustible cup member is adapted for positioning in the bottom of the receptacle and is movable with the waste into the combustion chamber for burning with the waste. Preferably, the receptacle is coated with a release material, such as silicone or the like, and the interior walls of the combustion chamber are fabricated of porous insulation type material capable of absorbing liquids to expose a greater area of liquid to heat and flame within the chamber. A water chamber surrounds and insulates the sides of the receptacle from heat emanating from the combustion chamber. The water may be delivered to the receptacle for flushing purposes. In one form of the invention, an intermediate storage chamber is disposed between the receptacle and the combustion chamber for receiving waste from the receptacle and a pump is provided for selectively delivering waste from the storage chamber to the combustion chamber.

21 Claims, 11 Drawing Figures



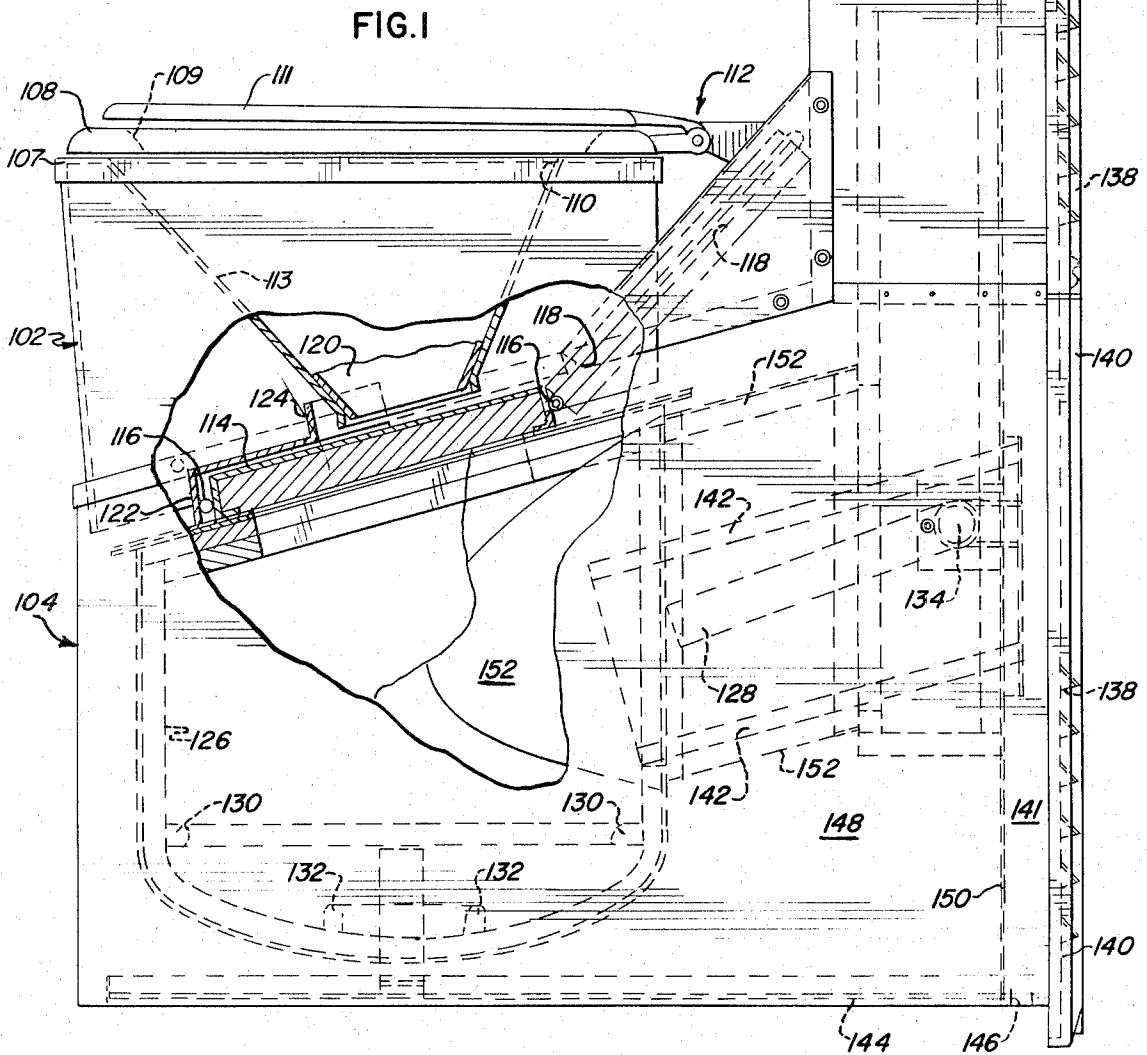
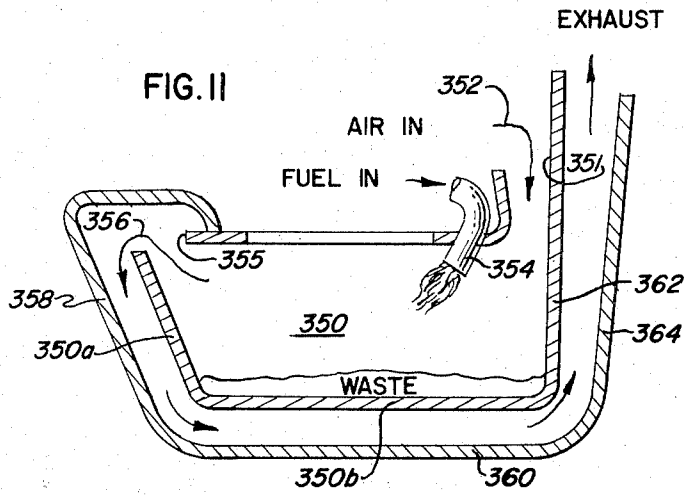


FIG. 2

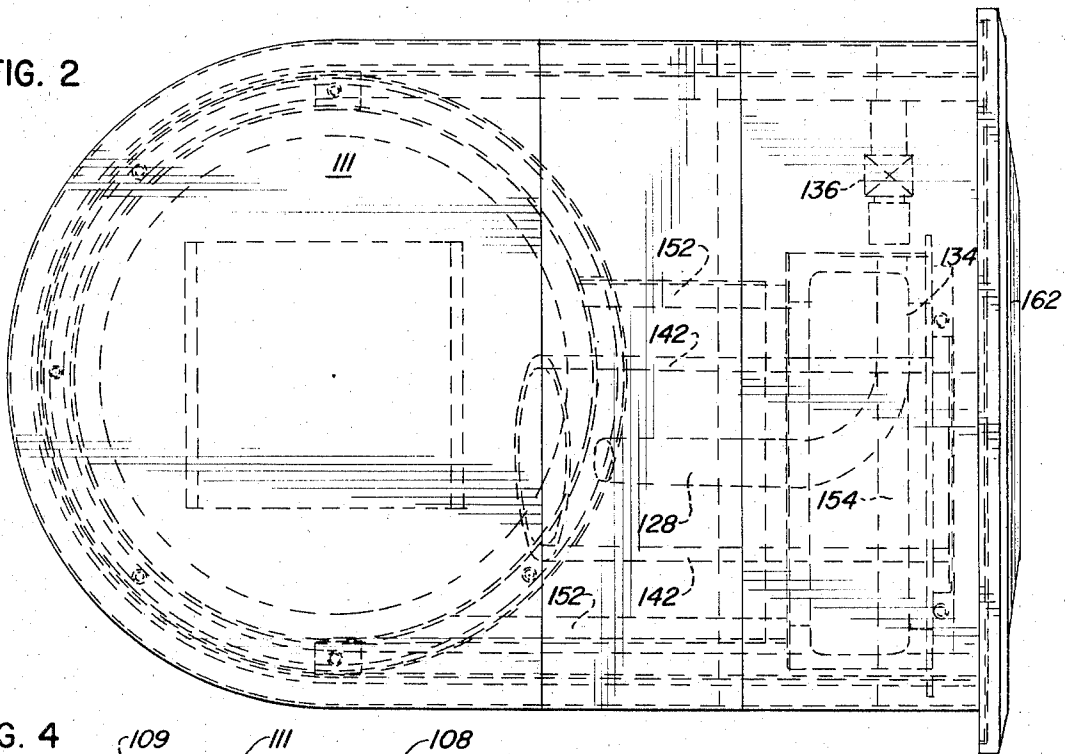


FIG. 4

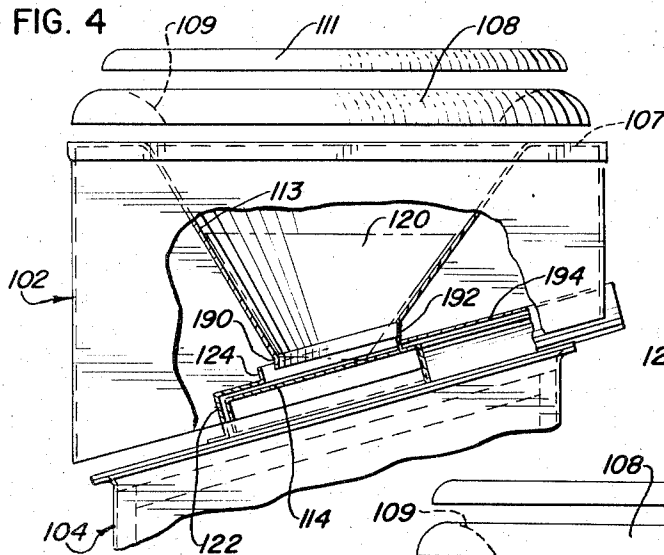


FIG. 6

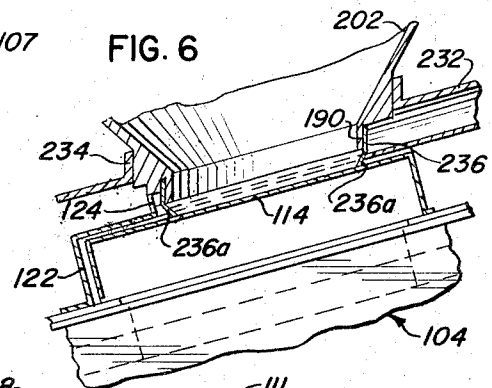


FIG. 5

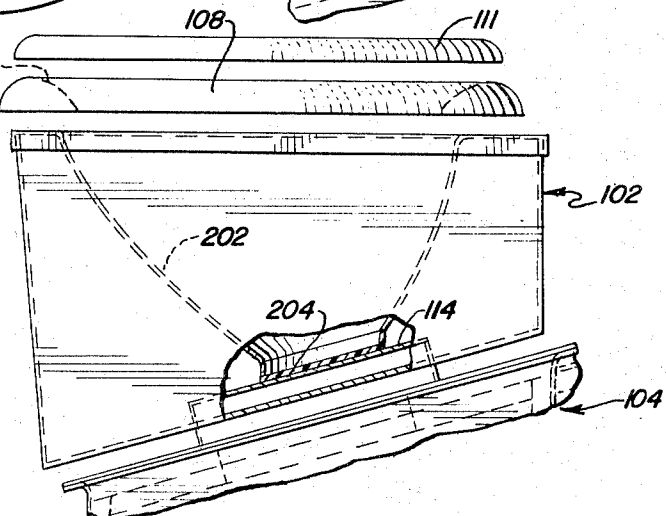


FIG. 3

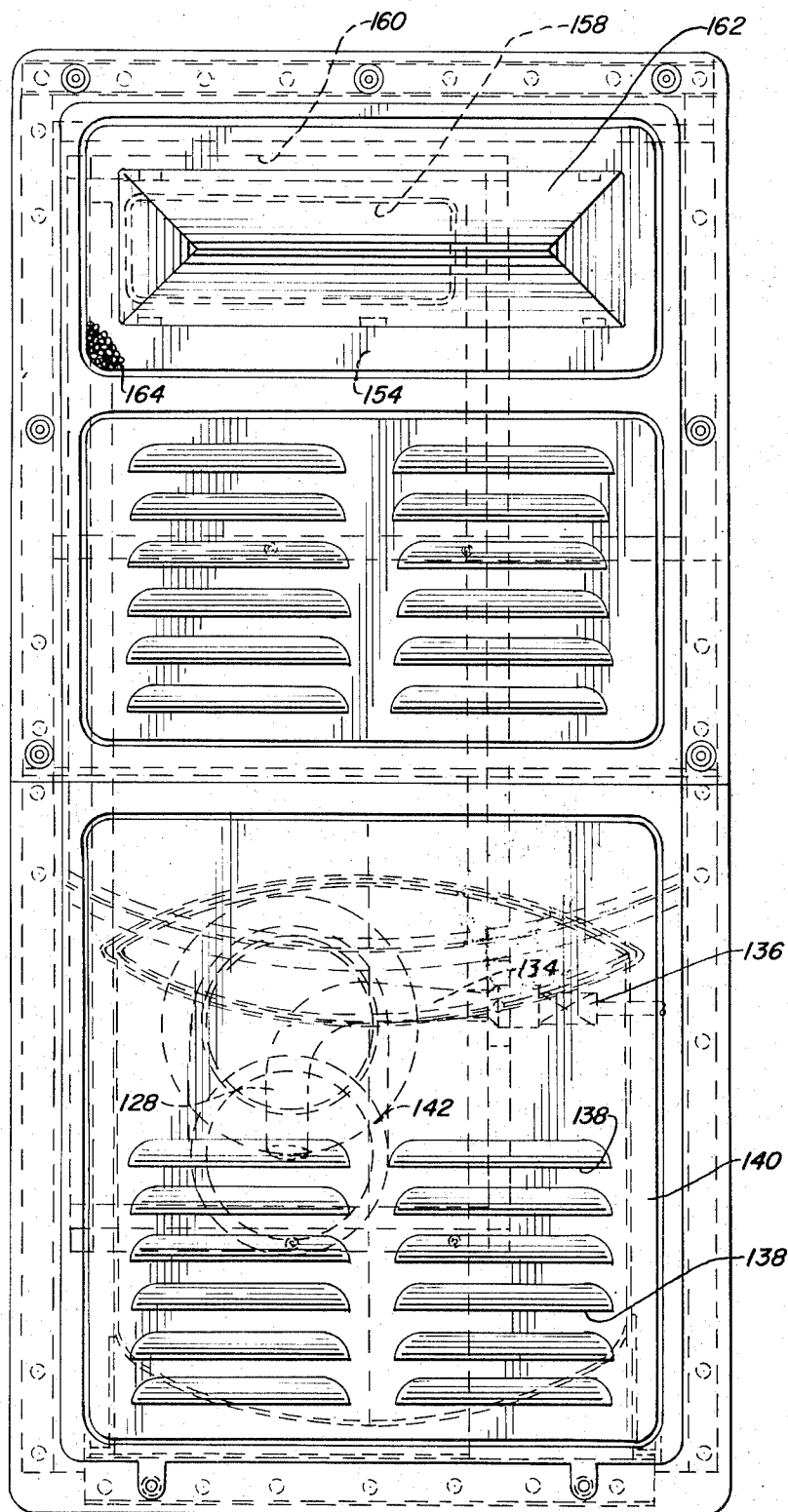


FIG. 7

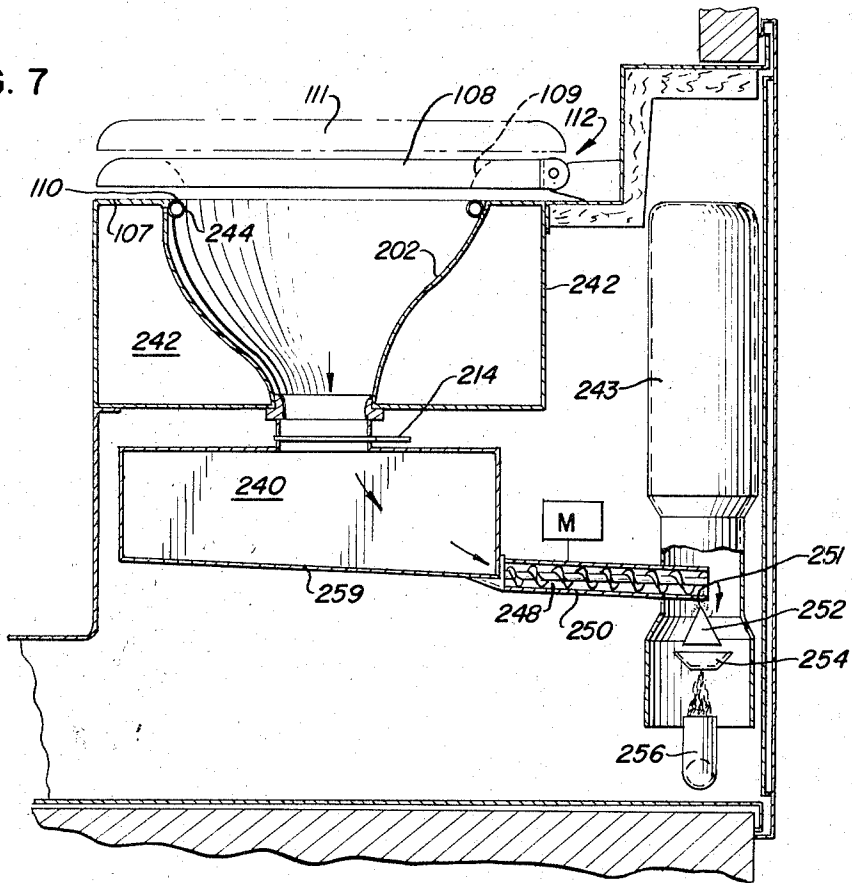


FIG. 8

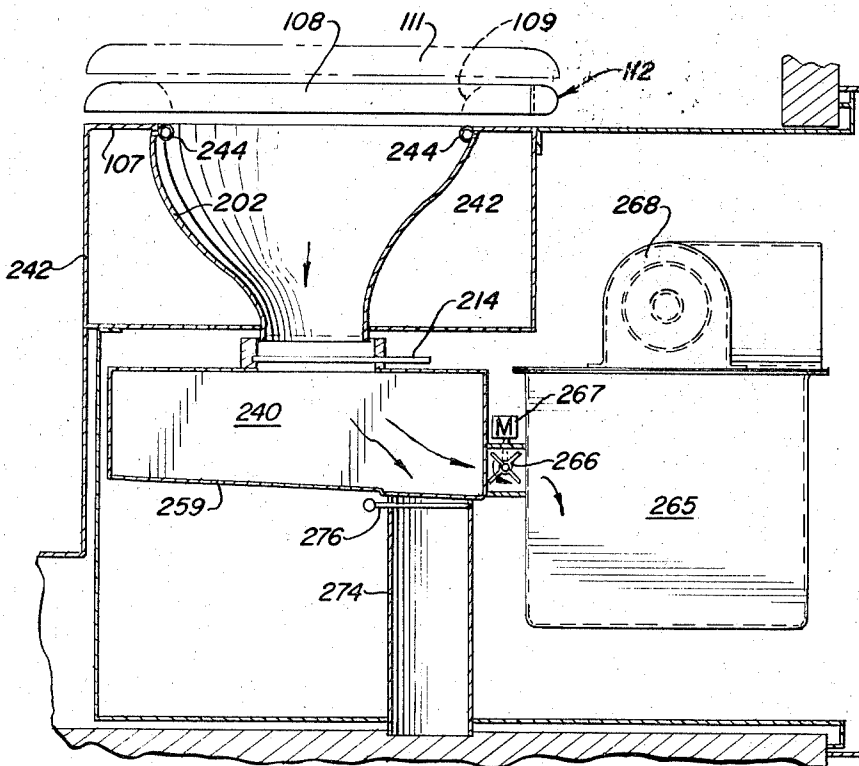


FIG. 9

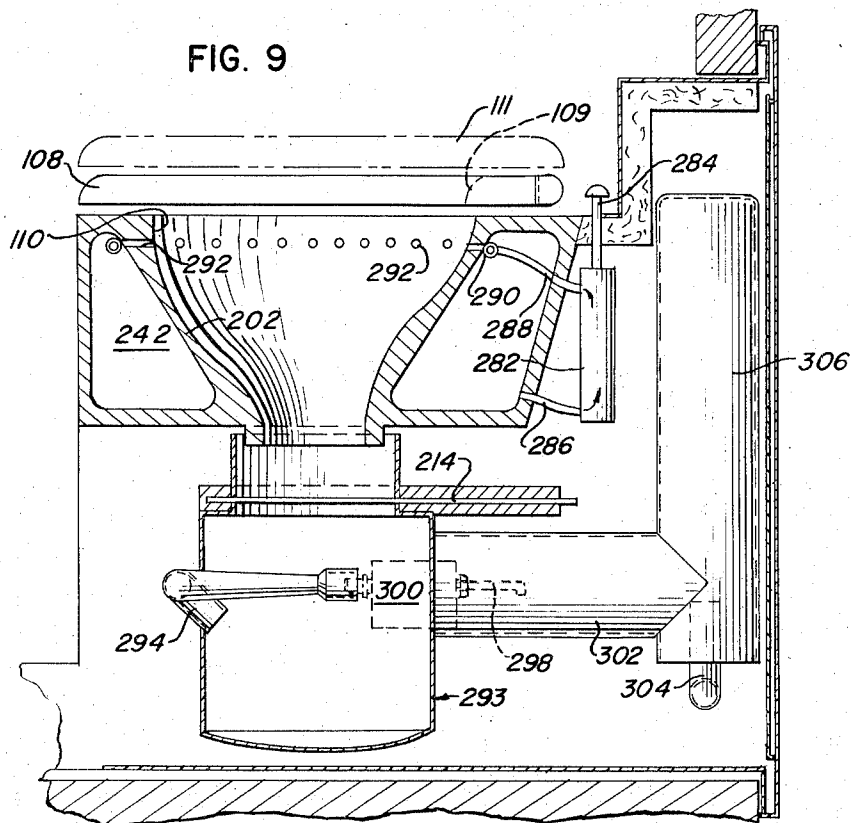
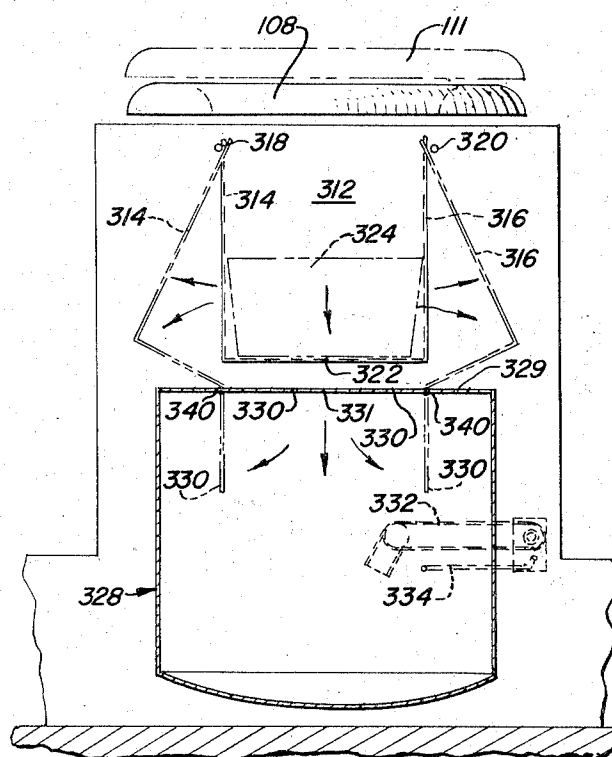


FIG. 10



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INCINERATOR

BACKGROUND OF THE INVENTION

This invention relates to improvements in incinerating waste disposal devices and especially improvements in sanitary incinerating toilets which are adapted for use in boats, trailers, campers, and for other camping and recreational purposes, as well as for use on construction jobs, unimproved cabins, and other places located away from sanitation facilities.

Incinerating toilets are becoming more and more important as pollution problems grow, particularly where suitable waste disposal is not available. Usually, such toilets operate by utilizing a burning cycle followed by a cooling cycle for cooling the combustion chamber after the waste is destroyed. For instance, reference can be made to United States Letters Patent No. 3,338,191, Aug. 29, 1967, to Frankel et al., entitled "Incinerator." Said patent shows a device in which an air flow is used during both burning and cooling cycles and the air flow path through a combustion chamber or a fire pot is controlled for a low rate of flow during the burning cycle and the air flow path is controlled for a high rate of flow through the fire pot for cooling. The control system for cycling the device through timed heating and cooling cycles may be responsive to operation of the device.

SUMMARY OF THE INVENTION

The present invention is directed to providing a new and improved incinerating waste disposal device of the character described and in the form of a sanitary toilet which incorporates various new and useful improvements or features to facilitate the function or operation thereof.

The principal object, therefore, of the present invention is to provide a new and improved incinerating waste disposal device and particularly an incinerating sanitary toilet.

In the exemplary embodiment of the invention, the incinerating waste disposal device includes means defining a receptacle having an open top through which waste can be deposited into the receptacle, means defining a combustion chamber beneath the receptacle for receiving waste from the receptacle, passage means from the receptacle to the combustion chamber, valve means in the passage means to selectively permit waste to be deposited from the receptacle through the combustion chamber in valve open position and to seal the receptacle from the combustion chamber in valve closed position, and means defining a burner for incinerating the waste in the combustion chamber. A cover is provided for the open top of the receptacle and means is provided to maintain the valve member open when the cover is closed and closed when the cover is open. The burner is offset relative to the center of the combustion chamber to direct a burning flame to one side of the chamber to effect a swirling burning action within the chamber. The burner also preferably directs its flame into the lower areas of the combustion chamber to effect greater burning action at the bottom of the chamber and thereby facilitate directing combustion gases upwardly from the chamber. Ring-like baffles protrude inwardly from the interior walls of the combustion chamber to reduce splashing of liquified mate-

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rials within the chamber should the device be used as a portable unit in vehicles or the like.

In the preferred embodiment of the invention, the receptacle terminates in a lower marginal lip defining a bottom receptacle opening and the valve means comprises a slide member movably mounted for sliding transversely of the bottom receptacle opening and having an upper surface for closing the opening. In one form of the invention, the edge of at least the trailing portion of the bottom receptacle lip (in relation to the direction of movement of the slide member when moving toward valve open position) has means defining a seal which engages the upper surface of the slide member. In another form, the forward portion of the receptacle lip (in relation to the direction of movement of the slide member when moving toward valve open position) engages the upper surface of the slide member to scrape waste residue therefrom for depositing in the combustion chamber. In a further form, the receptacle lip terminates in a spaced relationship above the upper surface of the sliding valve member, and a flexible wiper band is secured about the receptacle lip and depends downwardly therefrom for wiping the upper surface of the slide valve member as it moves between valve closed and valve open positions.

Further features of the invention include coating the interior walls of the receptacle with a release material, such as silicone or the like, and fabricating the interior walls of the combustion chamber with porous insulation type material, such as a ceramic material, which is capable of absorbing certain amounts of liquid to thereby expose a greater area of liquid to heat and flame within the combustion chamber. A disposable combustible cup like member, preferably fabricated of paper-like material, also may be provided and adapted for positioning in the bottom of the receptacle for receiving the waste and passing with the waste to the combustion chamber for burning with the waste.

In addition, a water chamber may be provided surrounding the receptacle to insulate the receptacle from heat emanating from the combustion chamber as well as providing a water reservoir for flushing waste from the receptacle by means of a pump, such as a hand pump having a handle exposed exteriorly of the device.

In another form of the invention, an intermediate storage chamber is provided between the receptacle and the combustion chamber and means such as a powered auger or powered paddle pump is provided for selectively delivering waste from the storage chamber to the combustion chamber.

An after-burner means may be provided, separate from the aforesaid burning means within the combustion chamber, to substantially complete burning of combustion gases emanating from the combustion chamber.

In a further form of the invention, the receptacle is defined by a bucket-like member which is split generally in half along a vertical seam, the bucket halves being hinged to a supporting structure for pivoting about horizontal axes to permit the waste received in the receptacle to fall into the subjacent combustion chamber. The combustion chamber has a top wall provided with spring loaded hinged trap doors through which waste from the receptacle falls into the combustion chamber.

Other objects, features and advantages of the invention will become apparent from the following detailed description taken in connection with the accompanying drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevational view, partially broken away, of one form of the incinerating waste disposal device of the present invention;

FIG. 2 is a top plan view of the device of FIG. 1;

FIG. 3 is a rear elevational view of the device of FIG. 1;

FIG. 4 is a modified incinerating waste disposal device wherein the rear portions of the lip about the bottom receptacle opening extends downwardly to scrape waste from the slide valve member when moving to open position;

FIG. 5 is a modified device wherein the forward portion of the bottom receptacle opening lip has a seal which seals with the top of the slide valve member;

FIG. 6 is a modified form of the device wherein the bottom receptacle opening lip is spaced from the valve member and a flexible wiper band is wrapped around the lip;

FIG. 7 is a modified device which includes an intermediate storage chamber and a powered auger for delivering waste to the combustion chamber;

FIG. 8 is a modified device somewhat similar to that of FIG. 7 but incorporating a paddle pump for delivering waste from the storage chamber to the combustion chamber;

FIG. 9 is a modified device incorporating a water chamber surrounding the receptacle and a hand pump for delivering water from the chamber for flushing the receptacle;

FIG. 10 is a modified device incorporating a "clam shell" type receptacle, and a trap door in the top of the combustion chamber; and

FIG. 11 is a modified device incorporating a two pass air flow system.

DETAILED DESCRIPTION OF THE INVENTION

Referring to the drawings in greater detail and first to FIGS. 1 and 2, the device shown includes a cabinet having an upper portion, generally designated 102, and a lower portion, generally designated 104, with a back portion, generally designated 106, contiguous with the lower portion 104. A toilet seat 108 is mounted on the top wall 107 of the upper cabinet portion 102. The toilet seat has a central opening 109 in registry with an opening 110 through the top wall 107 of the cabinet upper portion 102. A lid or cover 111 is mounted above seat 108 by a suitable hinge, generally designated 112, in the normal manner of mounting a toilet cover.

An interior cone-like tapered wall 113 is secured at its upper end to the upper cabinet wall 107 at a position surrounding the cabinet wall opening 110 and extends downwardly to define a receptacle. The tapered wall 113 terminates at its lower end immediately above a slide valve member 114 which defines the bottom wall of the receptacle.

Slide valve member 114 is mounted in the lower cabinet portion 104 by suitable slide pins 116 which are received in lateral slide tracks 118 so that the valve member 114 can be slid from its position shown in full lines in FIG. 1 to a rearward inclined position shown in

phantom in FIG. 1. A chain or suitable handle can be attached to the rear portion of slide valve member 114 for this purpose. Preferably the slide valve is actuated by opening and closing movement of the toilet lid so as to slide to its rearward inclined position when the lid is closed and then return to its position closing the bottom of the receptacle when the lid is opened. For details of such operations in similar systems, see Frankel U.S. Pat. No. 3,338,191 and copending Frankel U.S. Pat. application, Ser. No. 108,050, filed Jan. 20, 1971.

A disposable cup 120, such as paper liner, may be positioned on top of slide member 114 before use of the device. After use of the device and the slide member 114 is moved rearward by closing the toilet lid, the liner drops into a lower combustion chamber, described hereinafter. It will be noted that the forward edge of the slide member, when in closed position, is disposed under a flange 122 having an upwardly extending lip or dam 124. Dam 124 surrounds the front lower edge of the tapered wall 113 to direct any leakage of liquid downward into the clearance between valve member 114 and flange 122 so that such liquid is delivered into the combustion chamber even when valve member 114 is in closed position.

Mounted in the lower cabinet portion 104 is a combustion pot 126 which defines the aforesaid combustion chamber. Combustion pot 126 is preferably made of a heat resistant material such as a porous ceramic insulation material which will resist temperatures in the order of 2,500° F. The porous material absorbs liquids on the porous surfaces and thereby exposes a greater area of liquid to the heat and flame within the combustion chamber, resulting in faster vaporization. A burner 128 is mounted at a suitable rearwardly inclined angle to deliver a flame into combustion pot 126 for burning purposes. The combustion pot should be sufficiently large to act as a storage chamber to accumulate waste from a plurality of uses of the device before burning is initiated.

Since the device illustrated in FIGS. 1 through 3 is particularly adaptable for shipboard installation, splash rings or baffles 130 and 132 are provided in the combustion pot to prevent liquified materials from splashing out of the pot or onto the burner 128 whereby the flame might become extinguished. Other suitable projections can be provided on the bottom wall of the combustion pot to serve the same purpose.

The burner 128 is supplied with fuel, such as liquified propane, through a gas line 134 which is controlled by a suitable valve, such as a solenoid valve 136 (FIG. 2). Control of a solenoid type gas line valve, in a suitable timed cycle, is disclosed in Frankel et al. U.S. Pat. No. 3,304,559 and is incorporated by reference herein. Said patent shows a timer which provides a first timed burning cycle, e.g., for ten minutes or longer, followed by a timed cooling cycle, e.g., for about 6 minutes. Where longer or shorter cycles are desired, the timer can be adjusted or can be replaced by a timer giving the appropriate burning and cooling cycles. With the present invention, waste would be stored in the combustion pot until it reaches capacity. A two or three hour burn cycle thus would be employed followed by static cooling by convection.

Burner 128 draws secondary combustion air through vents 138 in a rear wall 140 into a chamber 141, thence through a cylindrical sleeve 142 within which burner

128 is mounted. The sleeve surrounds and is spaced from the burner. Air is also drawn into chamber 141 through bottom openings 146 from an air space 144 beneath the lower cabinet 104. This serves to keep a moving blanket of air in chamber 144 to prevent overheating of the floor on which the device rests. Air also is drawn into chamber 141 through opening 150 from the space 148 within the lower cabinet 104 to produce a cooling effect on the outer surface of combustion pot 126.

Exhaust flows from the combustion pot 126 through a large diameter conduit 152 which surrounds the sleeve 142 and burner 128. The exhaust flows upwardly through an exhaust duct 154 which has a thick layer 156 of highly heat-resistant insulation, then through a flue outlet 158 and through a rear wall exhaust port 160.

The sleeve 142 consists of a tubular member composed of heat resistant insulation for protecting the burner 128 from the heat of the exhaust gases flowing through conduit 152. It will be seen by reference to FIG. 2 that the combination of conduit 152, sleeve 142 and burner 128 is offset to one side of the center line of the combustion pot 126 for the purpose of producing a swirling flame within the combustion pot 126. It will also be noted with reference to FIG. 1 that the sleeve 142 is mounted below the center line of conduit 152 in order to get better direction of the flame downwardly into the combustion pot and more positive direction of combustion gases upwardly through duct 154 thereby providing a hotter flame within the combustion pot.

Turning now to the rear wall exhaust port 160, as best seen in FIGS. 1 and 3, the port is provided with a cover 162 which is constructed to block entry of water into chamber 144 and duct 154, such as might otherwise result from movement of a ship or simply from gusts of wind. Pressure changes from air movement are balanced by the close proximity of vents 138 and exhaust port 160. Disposed behind cover 162 and extending laterally thereof is a screen 164 which also assists in stopping back drafts. A baffle 166 is provided in the upper portion of chamber 141 to assure proper direction of exhaust gases from opening 158 through port 160. The gases flowing from opening 158 through port 160 also will tend to draw cooling air into and through chamber 141. The cooling air in chamber 141 serves to cool the exterior surface of duct 154.

FIG. 4 shows a modified structure wherein the cone-like side wall 113 terminates in a tubular lip portion 190 at the bottom end thereof. The disposable cup or liner 120, which may or may not abut the slide valve member 114, again is shown to provide for receiving waste product. The cup 120 will be delivered into the combustion chamber along with the waste product. However, the back or rear portion 192 of the tubular lip 190 rides on and seals closely against the top surface of slide valve 114 for scraping the top thereof during movement of valve 114 rearward. In the structure of FIG. 4 the slide valve 114 rides rearward within a continuation or extension 194 of the receiver flange 122 rather than being carried in a more inclined position during its rearward movement. In devices which use a paper liner or cup, such as at 120, depending upon the stiffness of the cup and design of the device it may sometimes be necessary to provide for manual removal and drop through of the cup upon opening of the valve 114.

FIG. 5 illustrates another form of toilet in accordance with the present invention which utilizes a modified receptacle and slide valve system. More particularly the receptacle side walls 202 have been formed with curvatures to appear more aesthetic. Curvature also minimizes splash back during use of the device. As with the structure shown in FIGS. 1 through 3 the receptacle can be lined with paper or a suitable preformed paper cup may be utilized. Alternative, or additionally, the receptacle side walls 202 may be coated with a suitable nonstick or release material, such as silicon or Teflon. In addition the bottom edge of the side wall 202 is provided with a silicone rubber lip or seal 204 which rides against the top of slide valve 114. The seal 204 preferably extends 360° around the entire bottom edge of wall 202 to seal off odors and gases from the combustion pot. However, sealing only at the front portion may be employed to hold a small amount of flush water, when desired.

The device shown in FIG. 6 is similar to those described above except that it has an additional support plate 232 and a support ring 234 for locating the lower end of the receptacle wall 202 and supporting the receptacle at its lower end. The tubular extension 190 terminates at a position spaced above the top of the slide valve 114 and a circular flexible wiper band 236 is wrapped around the outer surface of tubular portion 190. The wiper band extends beyond the bottom of the tubular portion 190 and forms an inwardly tapered conical portion 236a to ride upon the top of slide valve 114 to wipe the upper surface thereof as the valve is moved rearwardly.

FIG. 7 shows a structure which has an intermediate chamber 240 between the waste receptacle 202 and the burner, to be described below, for storing and accumulating waste. The device also has a water tank 242 surrounding the receptacle 202. The water within tank 242 provides insulation to block radiation of heat upward toward the toilet seat 108 from the combustion pot in those instances where the combustion pot is located directly below. In the embodiment shown, the water helps insulate the seat from heat emanating from a flue stack 243 at the rear of the device, as described below. The receptacle wall 202 is coated with Teflon or other suitable release material and water is delivered (by means such as a pump, described hereinafter) from tank 242 through a flush ring 244 after each use of the device to wash the wall 202. The washings will fall into a lower receptacle or storage chamber 240 along with the waste material upon opening of a slide valve plate 214. The valve plate 214 preferably is actuated (e.g., by suitable mechanical linkages, electrical solenoid valves, or the like) to open and dump the waste each time the lid or cover member 111 is closed, as described above. After a suitable delay for washing and assuring the waste is delivered to chamber 240, valve 214 then closes. The waste is delivered from chamber 240 by an auger 248 and forced through a conduit 250 and out of the conduit through a small orifice 251 adjacent the opposite end of the conduit. Auger 248 can be driven by a suitable motor M in known fashion. From orifice 251 the waste is delivered to a screen and cup burner. Specifically, the waste falls onto the surface of an inverted conical screen 252 and into a cup 254. A burner 256 is mounted below the cup 254 and is directed upwardly against the bottom of the cup. Burner 256 is ignited to burn the waste and deliver combustion

gases up flue 243. Burner 256 and auger 248 preferably are operated simultaneously to burn the wastes as they are delivered from chamber 240.

FIG. 8 shows still another device which, like FIG. 7, uses the curved receptacle side wall 202, the water tank 242 and flush ring 244, the slide valve plate 214 and the intermediate storage chamber 240. Waste material is delivered from chamber 240 into a combustion chamber 265 by a paddle pump 266 which is driven by a motor 267. Combustion chamber 265 is provided with an overhead burner 268. A drain conduit 274 may be provided and controlled by a hand operated gate valve plate 276 for draining the chamber 240 when and if desired. The drain conduit 274 can be connected to suitable sewage disposal lines if desired, so that the device can be used either with conventional sewer systems or as a combustion toilet. The bottom wall 259 of chamber 240, again, is sloped downwardly toward the paddle pump 266.

FIG. 9 illustrates another device utilizing a water reservoir 242 about the receptacle walls 202. A hand pump 282, operated by a hand plunger 284 draws water from the reservoir 242 through an inlet port 286 and delivers the water through an outlet tube 288, thence through a manifold or water distribution ring 290 which distributes the water around the top of the receptacle. The water is forced through a plurality of spaced ports 292 in the distribution ring 290 so that it runs down and washes the inside of the receptacle side wall 202. Ports 292 can be sufficiently small as to direct high velocity water and/or quick release liquid at the waste materials which tend to stick to the sides of receptacle 202. The impact of the liquid plus the wetting of the surfaces enhances movement of the waste. The hand pump conveniently can be operated as needed, e.g., after each use of the toilet. After each use, slide valve plate 214 is manually or automatically opened by closing the toilet lid, as described above, and the waste and wash liquid is released into a combustion chamber 293. The combustion chamber 293 is provided in the front portion thereof with a suitable burner 294 which receives a mixture of air and gas from line 298 under the control of a solenoid valve 300 which can be controlled by a suitable timer operated system for operating burner 294 at proper times. The combustion gases are directed from combustion chamber 293 through an exhaust duct 302 to an after-burner 304. The after-burner is provided to complete burning of the combustion gas. After-burner 304 forces the combustion gases while burning upwardly through a flue 306.

The device in FIG. 10 shows modified means for receiving and then delivering waste to the combustion chamber. A receptacle 312 is formed by a pair of clam shells or bucket halves 314 and 316 which are hinged at 318 and 320, respectively. The bucket halves 314 and 316 meet along a central closure or seam line 322 to form the receptacle 312. A paper liner, cup, or the like, as shown at 324, may be used in the lower portion of receptacle 312. A combustion chamber 328 is provided immediately below receptacle 312. The top wall 329 of the chamber is provided with a pair of opposing trap doors 330 which close along a central seam line 331. The combustion chamber 328 also is provided with a suitable gas burner 332 having a pilot ignition 334. In use, waste is deposited into the cup 324 and, after use, the trap doors 330 are opened and the clam shells 314 and 316 are swung outwardly to release the

paper cup and contents. The cup falls through the open trap doors and into the combustion chamber. Trap doors 330 then are closed to seal the top of the combustion chamber during combustion of waste material. Hinges 340 of the trap doors may be spring loaded so that the doors swing back automatically after the cup and contents fall therethrough. The bucket halves 314 and 316 are swung back together to form the receptacle 312. Preferably, the chamber 328 is filled to capacity with wastes, at which time the burner is actuated and the total wastes burned off.

FIG. 11 shows a modified device which employs a double pass air flow system wherein the air for combustion is drawn into the combustion chamber 350 through an inlet 351 from exteriorly of the device (as at arrow 352) and passed through the combustion chamber past burner 354. The air and products of combustion then flow out of the combustion chamber through an outlet 355 (as at arrow 356), and pass about the sides 350a and bottom 350b of the combustion chamber, between the combustion chamber and the sides 358 and bottom 360 of the outer casing and insulation of the device. The air then is exhausted out of the device between the back 362 of the combustion chamber and the back 364 of the outer casing and insulation.

The foregoing detailed description has been given for clearness of understanding only and no unnecessary limitations should be understood therefrom as some modifications will be obvious to those skilled in the art.

We claim:

1. An incinerating waste disposal device, comprising:

means defining a receptacle having an open top through which waste can be deposited into the receptacle and a sidewall secured against movement and terminating at an open bottom;
a toilet seat on said top having a central opening;
a lid mounted for movement to open and close said central opening;
means defining a drainless combustion chamber beneath the receptacle for receiving waste by gravity drop from the receptacle open bottom;
passage means from the receptacle open bottom to the combustion chamber;
valve means mounted in said passage means for movement between open and closed positions relative to said open bottom and having a flat upper surface for closing said open bottom and directly supporting a flat bottomed container of waste in the receptacle, said valve means sealing the receptacle from the combustion chamber in valve closed position and selectively permitting waste to be deposited from the receptacle to the combustion chamber in valve open position, and including means for opening the valve with said lid closed and for closing the valve with the lid open; and
means defining a fuel burner for incinerating the waste in the combustion chamber.

2. The device of claim 1 wherein said combustion chamber is sufficiently large relative to said receptacle so as to act as a storage chamber to accommodate repeated uses of the device before incineration is initiated.

3. An incinerating waste disposal device, comprising:

means defining a receptacle having an open top through which waste can be deposited into the receptacle;

means defining a combustion chamber having generally cylindrical interior sidewalls beneath the receptacle for receiving waste from the receptacle;

passage means from the receptacle to the combustion chamber;

valve means in said passage means to selectively permit waste to be deposited from the receptacle to the combustion chamber in valve open position and to seal the receptacle from the combustion chamber in valve closed position; and

means defining a burner for incinerating the waste in the combustion chamber, said burner being offset relative to the center of the combustion chamber in a position to direct a burning flame to one side of the combustion chamber and in cooperation with the chamber walls constituting the sole means for effecting a swirling burning action within the chamber.

4. The device of claim 3 wherein said burner is disposed so as to direct a flame into the lower areas of the combustion chamber to effect greater burning action at the bottom of the chamber and facilitate directing combustion gases upwardly from the chamber.

5. The device of claim 1 including a disposable, combustible cup member adapted for positioning in the bottom of said receptacle and movable with the waste into said combustion chamber for burning with the waste.

6. The device of claim 1 wherein said receptacle terminates in a lower marginal lip defining a bottom receptacle opening, and said valve means comprises a slide member movably mounted for sliding transversely of said bottom receptacle opening and having an upper surface for closing the opening.

7. An incinerating waste disposal device, comprising:

means defining a receptacle having an open top through which waste can be deposited and terminating in a bottom opening at a lower marginal lip;

means defining a combustion chamber having a top opening beneath the receptacle for receiving waste from the receptacle;

passage means from the receptacle to the combustion chamber;

valve means comprising a waste support member mounted in said passage means for movement transversely of said receptacle bottom opening to selectively permit waste to be deposited from the receptacle to the combustion chamber in valve open position and having an upper surface for closing the receptacle bottom opening in valve closed position;

means at the edge of at least the trailing portion of said receptacle lip, in relation to the direction of movement of said valve member when moving toward valve open position, defining a seal engageable with the upper surface of said valve member; and

means defining a burner for incinerating the waste in the combustion chamber.

8. An incinerating waste disposal device, comprising:

means defining a receptacle having an open top through which waste can be deposited and terminating in a bottom opening at a lower marginal lip;

means defining a combustion chamber having a top opening beneath the receptacle for receiving waste from the receptacle;

passage means from the receptacle to the combustion chamber;

valve means comprising a waste support member mounted in said passage means for movement transversely of said receptacle bottom opening to selectively permit waste to be deposited from the receptacle to the combustion chamber in valve open position and having an upper surface for closing the receptacle bottom opening in valve closed position;

at least the forward portion of said receptacle lip, in relation to the direction of movement of said slide member when moving toward valve open position, engaging the upper surface of said waste support member to scrape waste residue from said upper surface for depositing in said combustion chamber; and

means defining a burner for incinerating the waste in the combustion chamber.

9. An incinerating waste disposal device, comprising:

means defining a receptacle having an open top through which waste can be deposited and terminating in a bottom opening at a lower marginal lip;

means defining a combustion chamber having a top opening beneath the receptacle for receiving waste from the receptacle;

passage means from the receptacle to the combustion chamber;

valve means comprising a waste support member mounted in said passage means for movement transversely of said receptacle bottom opening to selectively permit waste to be deposited from the receptacle to the combustion chamber in valve open position and having an upper surface for closing the receptacle bottom opening in valve closed position;

a flange-type housing about at least one side of said waste support member, when in valve closed position, said flange-type housing having an upwardly protruding lip on the outside of the lower marginal lip of said receptacle to direct any leakage around the waste support member into the combustion chamber; and

means defining a burner for incinerating the waste in the combustion chamber.

10. An incinerating waste disposal device, comprising:

means defining a receptacle having an open top through which waste can be deposited and terminating in a bottom opening at a lower marginal lip;

means defining a combustion chamber having a top opening beneath the receptacle for receiving waste from the receptacle;

passage means from the receptacle to the combustion chamber;

valve means comprising a waste support member mounted in said passage means for movement

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transversely of said receptacle bottom opening to selectively permit waste to be deposited from the receptacle to the combustion chamber in valve open position and having an upper surface for closing the receptacle bottom opening in valve closed position;

a flexible wiper band secured about said receptacle lip and depending downwardly therefrom for wiping the upper surface of said waste support member as it moves between valve open and valve closed positions; and

means defining a burner for incinerating the waste in the combustion chamber.

11. An incinerating waste disposal device, comprising means defining a receptacle portion for receiving waste and a combustion chamber portion below the receptacle portion for receiving waste from the receptacle portion and burning the waste, said receptacle portion having a lower marginal lip defining a bottom receptacle opening, a valve member movably mounted for moving transversely of said bottom receptacle opening and having an upper surface for closing the opening, and means at the edge of at least the trailing portion of said receptacle lip, in relation to the direction of movement of said valve member when moving toward valve open position, defining a seal engageable with the upper surface of said valve member.

12. An incinerating waste disposal device, comprising means defining a receptacle portion for receiving waste and a combustion chamber portion below the receptacle portion for receiving waste from the receptacle portion and burning the waste, said receptacle portion having a lower marginal lip defining a bottom receptacle opening, and a slide valve member movably mounted for moving transversely of said bottom receptacle opening and having an upper surface for closing the opening, at least the forward portion of said receptacle lip, in relation to the direction of movement of said slide member when moving toward valve open position, engaging the upper surface of said slide member to scrape waste residue from said upper surface for depositing in said combustion chamber.

13. An incinerating waste disposal device, comprising means defining a receptacle portion for receiving waste and a combustion chamber portion below the receptacle portion for receiving waste from the receptacle portion and burning the waste, said receptacle portion having a lower marginal lip defining a bottom receptacle opening, a valve member movably mounted for moving transversely of said bottom receptacle opening and having an upper surface for closing the opening, and a flange-type housing about at least one side of said valve member, when in valve closed position, said flange-type housing having an upwardly protruding lip on the outside of the lower marginal lip of said receptacle to direct any leakage around the valve member into the combustion chamber.

14. An incinerating waste disposal device, comprising means defining a receptacle portion for receiving waste and a combustion chamber portion below the receptacle portion for receiving waste from the receptacle portion and burning the waste, said receptacle portion having a lower marginal lip defining a bottom receptacle opening, a valve member movably mounted for moving transversely of said bottom receptacle opening and having an upper surface for closing the opening, and a flexible wiper band secured about said

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receptacle lip and depending downwardly therefrom for wiping the upper surface of said valve member as it moves between valve open and valve closed positions.

15. An incinerating waste disposal device, comprising:

means defining a receptacle having an open top through which waste can be deposited into the receptacle;

means defining a combustion chamber beneath the receptacle for receiving waste from the receptacle;

passage means from the receptacle to the combustion chamber;

valve means in said passage means to selectively permit waste to be deposited from the receptacle to the combustion chamber in valve open position and to seal the receptacle from the combustion chamber in valve closed position;

means defining a burner for incinerating the waste in the combustion chamber; and

at least one ring-like baffle protruding inwardly from interior walls of said combustion chamber to reduce splashing of liquified materials within the chamber should the device be used as a portable unit in vehicles or the like.

16. An incinerating waste disposal device, comprising:

means defining a receptacle having an open top through which waste can be deposited into the receptacle;

means defining a combustion chamber beneath the receptacle for receiving waste from the receptacle;

passage means from the receptacle to the combustion chamber;

valve means in said passage means for supporting solid waste to selectively permit solid waste to be deposited from the receptacle to the combustion chamber in valve open position and to seal the receptacle from the combustion chamber in valve closed position;

by-pass means for directing liquid waste around said valve means with said valve means in closed position; and

means defining a burner for vaporizing and incinerating the waste in the combustion chamber.

17. An incinerating waste disposal device, comprising:

means defining a receptacle having an open top through which waste can be deposited into the receptacle and a sidewall secured against movement and terminating at an open bottom;

means defining a combustion chamber beneath the receptacle for receiving waste by gravity drop from the receptacle open bottom;

passage means from the receptacle open bottom to the combustion chamber;

valve means mounted in said passage means for movement transversely between open and closed positions relative to said sidewall and open bottom and having a flat upper surface for closing said open bottom;

a disposable combustible cup-like member having a flat bottom surface directly supported on said valve means at said open bottom;

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said valve means sealing the receptacle from the combustion chamber in valve closed position and selectively permitting said cup-like member and waste to be deposited from the receptacle to the combustion chamber in valve open position; and means defining a fuel burner for incinerating the waste in the combustion chamber.

18. An incinerating waste disposal device, comprising:

a housing having means defining a receptacle portion for receiving waste and a combustion chamber portion below the receptacle portion for receiving and burning the waste;

a burner within the housing and having a nozzle for directing a flame into the combustion chamber;

a first sleeve-like member surrounding and spaced from said nozzle and in communication with the combustion chamber for drawing secondary air from the exterior of the housing for facilitating combustion within the combustion chamber; and

a second sleeve-like member surrounding and spaced from said first sleeve-like member and in communication with the combustion chamber for directing exhaust from the combustion chamber to the exterior of the housing.

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rior of the housing.

19. The device of claim 18 wherein said first sleeve-like member is generally open ended with one end in the combustion chamber and the opposite end in communication with the air from exteriorly of the housing, and said second sleeve-like member has one end in the combustion chamber and the opposite end closed by an exhaust duct.

20. The device of claim 18 wherein said housing has a recessed bottom wall with aperture means therein leading to a portion of the housing in communication with said first sleeve-like member to draw air from the recess below the housing into the combustion chamber thereby creating an insulating current of air to prevent overheating of a floor or other substructure on which the device may rest.

21. The device of claim 18 wherein said housing has means defining an air chamber substantially surrounding said combustion chamber and in communication with said first sleeve-like member to draw air from the air chamber into the combustion chamber thereby creating a cooling current of air about the combustion chamber.

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