

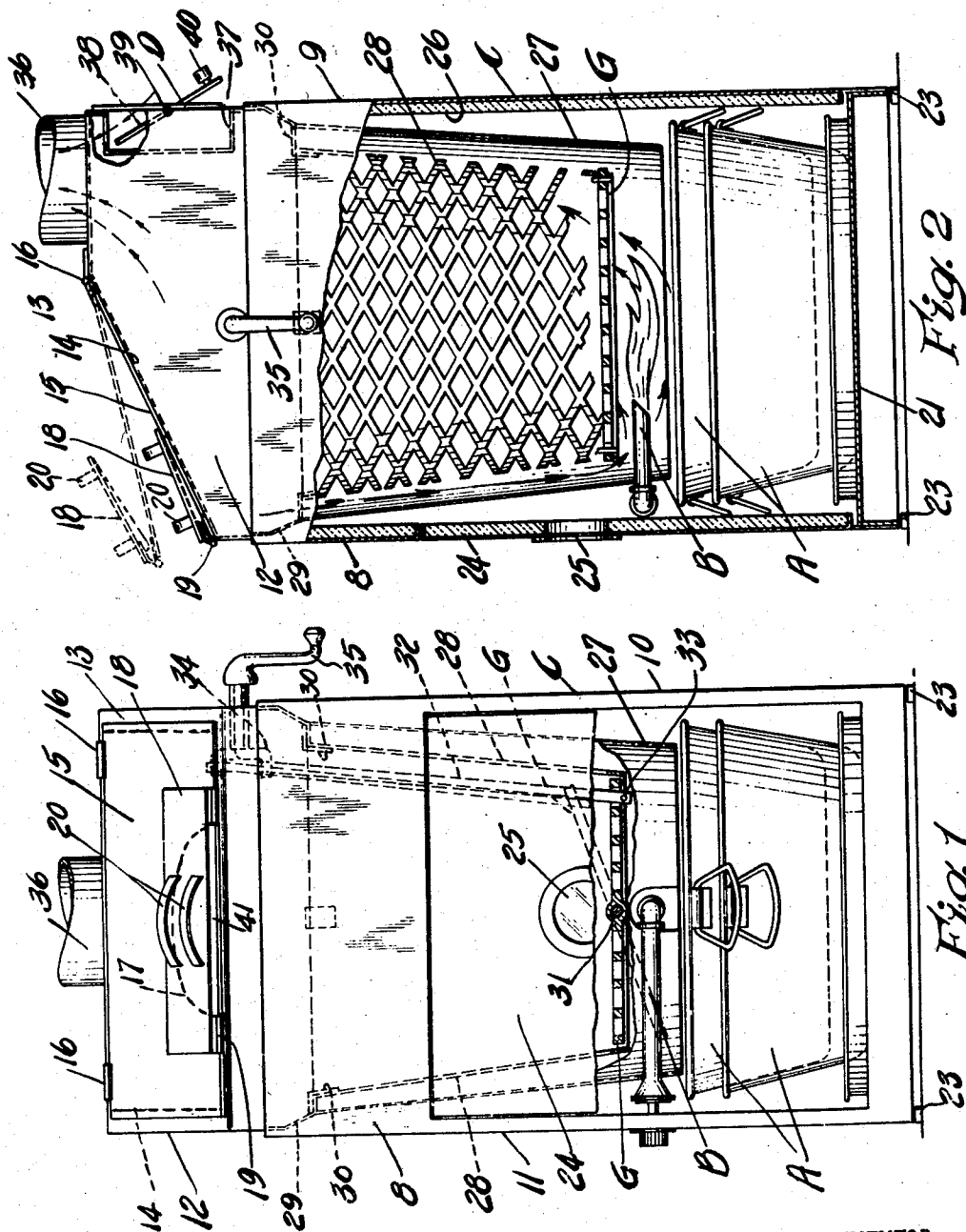
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REFUSE INCINERATOR

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REFUSE INCINERATOR

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This invention relates to refuse disposal units used for burning garbage, trash and refuse of all kinds.

One of the prime objects of the invention is to design a disposal unit for domestic use in a dwelling, and provide a unique feed door and auxiliary door arrangement for admitting air to the unit and preventing escape of fumes and odors into the room or area in which the disposal unit is being used.

Another object is to design a disposal unit provided with an automatic check damper which is automatically actuated as the unit is in operation to regulate the draft and prevent overheating when papers or other highly combustible material is being burned.

A further object is to provide a disposal unit having a baffle cylinder with a perforated basket or container suspended therein to provide a full length annular air space between said cylinder and container, permitting cool air to flow downwardly to the bottom of the unit and circulate around the consumable material in the container and provide for maximum drying action, and the evaporation of moisture in the material to the end that slow burning trash and garbage will burn more readily and evenly.

Still a further object is to provide a compact, neat-appearing disposal unit which can be placed in the kitchen, basement, office or other part of the house or establishment, and which will effectively consume rubbish, garbage and other combustible refuse placed therein.

A further object still is to provide a compact, efficient disposal unit having constructional characteristics conducive to rapid combustion of materials not easily burned, and which will not give off excessive heat into the room in which the unit is located.

A further object is to provide nesting, removable and portable ash containers into which the ashes fall as the grate is actuated so that there is very little spread of ash dust or spillage in the base of the unit.

Another object is to provide a disposal unit provided with a top extension for the cabinet with an inclined double door arrangement for use in charging the combustion cylinder, igniting the materials, and admitting cool air to the upper interior of the casing.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts, hereinafter more fully described, illustrated in the accompanying drawing, and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportions, and minor details of construction, without departing from the spirit, or sacrificing any of the advantages of the invention.

In the drawings:

Fig. 1 is a front elevational view of my disposal unit, the front wall being broken away to show the ash containers.

Fig. 2 is a vertical, part sectional, side elevational view of the unit, the broken lines showing the feed door in raised position.

Referring now more particularly to the drawings in which I have shown the preferred embodiment of my invention, the letter C indicates a sheet metal cabinet comprising front, rear and side walls 8, 9, 10 and 11 respectively, and an extension 12 forms a closure for the upper end of the casing, the top being upwardly inclined as at 13, and an opening 14 is provided in this inclined area.

A feed door member 15 is hingedly connected to the top of the extension by hinges 16, and an opening 17 is

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provided in the feed door with an auxiliary door 18 hingedly connected to the lower edge of the door 15 at the point 19, and handles 20 are provided on the door 18 for easy manipulation thereof. The lower edge of the auxiliary door 18, which is adjacent the pivot 19, is spaced above the main door to form a slot 41, through which air from the exterior may enter the upper portion of the cabinet.

A transversely disposed plate 21 spans and closes the cabinet at its lower end, and coasters 23 support the cabinet.

A relatively large ash pit door 24 is provided on the front wall of the casing, and is provided with a transparent sight glass 25, the casing walls being insulated as at 26 to conserve heat in the cabinet and prevent excessive heat entering the room in which the unit is located.

An air baffle member 27 is interposed between the perforated combustion receptacle 28 and the walls of the casing, the upper end being flared as at 29 for securing it in position in any desired manner and L-shaped support lugs 30 are provided on the combustion receptacle and engage the top of the air baffle member for suspending it in position.

A suitable grate structure G is provided in the cabinet directly below the lower end of the perforated combustion cylinder, said grate being pivotally mounted on the shaft 31, and a link 32 is pivotally connected to said grate at the point 33, the upper end of the link being connected to a crank 34 which is mounted in the wall of the cabinet with a crank handle 35 for easy manipulation of the grate.

A burner B opens through the side wall 11 of the cabinet directly adjacent the sight glass 25.

A smoke pipe 36 opens into the top of the extension member 12 adjacent the upper end of the inclined area of the top, and an automatic damper D is mounted in the back wall of said extension and comprises a housing 37 set in a suitable opening provided in the back wall of the extension, a damper 38 forming a closure for the open face of the housing and is pivoted as at 39 with a small weight or handle 40 on the lower end thereof to normally hold the damper in closed position, the upper wall of the housing being open to permit passage of air therethrough, all as indicated by the arrows shown in Fig. 2 of the drawings.

The auxiliary door 18 has its lower end spaced above the face of the feed door 15 to provide an air inlet draft slit or opening 41 therebetween so that cool air flows into the cabinet between the air baffle member and the combustion receptacle, and thence to the smoke flue, all as indicated by the arrows shown in Fig. 2 of the drawings.

The lower end of the air baffle member 27 is disposed in closely spaced relation to the upper end of the ash container A and said member is recessed as at 42 to accommodate the burner.

The containers A are removable through the ash pit door 24 and by utilizing two ash containers, one container will always be in position while the other is being emptied. The grate G is cleaned by rotation of the handle 35; this rocks the grate as indicated in broken lines in Fig. 1 to dislodge and discharge ashes and other debris from the grate into the ash container.

Rubbish, garbage and other combustibles, either wet or dry, are fed to the combustion receptacle, either through the feed door 15 or the auxiliary door 18, and if the trash is dry, no heat source is needed, it being merely necessary to ignite papers or other dry trash with a match through the auxiliary door. However when the garbage is wet and soggy, the burner B is ignited. This aids in the drying with minimum odor, as moderately moist refuse will dry fairly well under normal draft conditions due to the air circulating over and around it with the burner burning at a low flame which does not contact the refuse. High flame contacts the refuse and ignites it and as the contents are consumed, the smoke and gases flow upwardly through the smoke pipe to atmosphere.

When the combustion receptacle is filled with paper or other highly combustible material, the smoke pipe temperature rises very quickly, and this smoke pipe temperature is automatically controlled by the check damper D which swings about the pin 39 to a more opened, in-

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clined position as indicated in Fig. 2 of the drawing, permitting cold air to flow into the smoke pipe through the baffle box inlet, all as indicated by the arrows shown in Fig. 2 of the drawings. The damper 38 is normally slightly open and when the smoke pipe temperature and consequently the draft pressure increases, the rush of air through the damper housing D acts to pivot the weighted damper 38 to admit a greater volume of air. The perforated combustion receptacle 28 insures maximum drying surface and free air circulation, and provides for even burning so that all combustible refuse is completely consumed and reduced to clean ash suitable for use as a fertilizer.

When the feed door 15 is opened for charging, air is admitted to the cabinet through the opening 41; however, it will be noted that the air enters at a point below the smoke pipe opening into the cabinet so that it will flow rearwardly and upwardly, carrying with it any smoke or gases rising from the material in the combustion cylinder, consequently, there is no smoke or leakage into the room, and this also holds true for air admitted through the draft inlet or the auxiliary door when the door 15 is closed.

From the foregoing, it will be obvious that I have perfected a very simple, practical and effective disposal unit which can be easily and economically manufactured and assembled, which is of neat and pleasing appearance, and which completely consumes all combustible material.

What I claim is:

1. In a disposal unit of the character described, an insulated cabinet having a tapered air baffle cylinder suspended therein, a tapered annular combustion receptacle suspended within said air baffle cylinder and spaced therefrom to form an air passage therebetween, a grate at the lower end of the combustion receptacle, a cabinet extension above the point of suspension of said air baffle cylinder and having an upwardly inclined top face with a charge opening therein, a smoke pipe opening into said cabinet at a point adjacent the high end of said top, a flat door having an opening at the lower edge thereof forming a closure for said charge opening except for said opening at the lower edge of said door, and an auxiliary door of sufficient surface area to form a closure for said opening in said door hingedly connected along the lower edge thereof to the lower edge of said door, the lower edge of the auxiliary door being supported above the lower edge of the first mentioned door to form a slitted draft opening therebetween communicating with the charge opening at the lower end of said extension.

2. In a disposal unit of the character described, an insulated cabinet having a tapered air baffle cylinder suspended therein, a tapered annular combustion receptacle suspended within said air baffle cylinder and spaced therefrom to form an air passage therebetween, a grate at the lower end of the combustion receptacle, a cabinet extension above the point of suspension of said air baffle cylinder and having an upwardly inclined top face with a charge

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opening therein, a smoke pipe opening into said cabinet at a point adjacent the high end of said top, a flat door having an opening at the lower edge thereof forming a closure for said charge opening except for said opening at the lower edge of said door, and an auxiliary door of sufficient surface area to form a closure for said opening in said door hingedly connected along the lower edge thereof to the lower edge of said door, the lower edge of the auxiliary door being supported above the lower edge of the feed door to form a slitted draft opening therebetween communicating with the charge opening at the lower end of said extension, the wall of the cabinet extension being formed with an opening adjacent and below the lower end of the smoke pipe, a baffle box, said opening mounted within said cabinet extension and surrounding the opening in said cabinet extension wall, said baffle box having an opening at its upper end communicating with the interior of the cabinet extension below the smoke pipe, and a vertically disposed damper mounted in said box and normally forming a substantial closure therefor, said damper being pivotally mounted and free to swing inwardly of the cabinet to admit air thereto as the products of combustion flow to the smoke pipe and the temperature of the smoke pipe rises.

3. In a disposal unit, an insulated cabinet, a combustion receptacle, means suspending the combustion receptacle within said cabinet spaced from said cabinet to form an air passage therebetween, grate means at the lower end of the combustion receptacle, a cabinet extension above the level of suspension of said combustion receptacle, said cabinet extension having an upwardly inclined top face with a charge opening therein adjacent the lower end thereof, a smoke pipe opening into said cabinet at a point adjacent the upper end of said top face, a flat door having an opening at the lower end thereof forming a closure for said charge opening except for said opening at the lower edge of said door, and an auxiliary door of sufficient surface area to form a closure for said opening in said door hingedly connected along the lower edge thereof to the lower edge of said door, the lower edge of the auxiliary door being supported above the lower edge of the first-mentioned door to form a slitted draft opening therebetween communicating through the opening in said first-mentioned door with the lower end of said extension.

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