

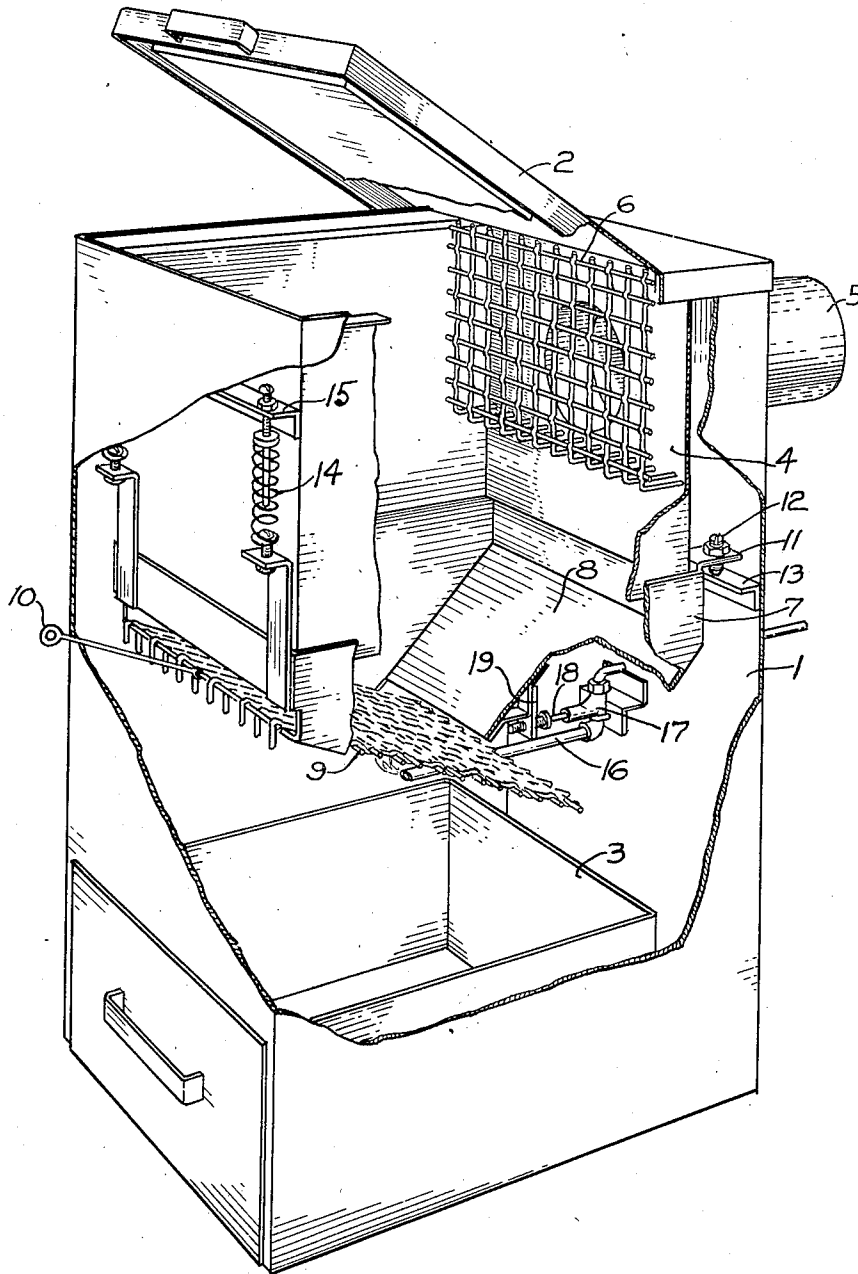
Dec. 5, 1944.

F. A. FURLONG

2,364,286

INCINERATOR

Filed Feb. 16, 1942



Inventor
Francis A. Furlong
by Dawson Corns & Booth
Attorneys

UNITED STATES PATENT OFFICE

2,364,286

INCINERATOR

Francis A. Furlong, River Forest, Ill., assignor to
Autogas Company, Chicago, Ill., a corporation
of Illinois

Application February 16, 1942, Serial No. 431,027

5 Claims. (Cl. 110—8)

This invention relates to incinerators and more particularly to the automatic control of incinerators of a type adapted for domestic use.

One of the objects of the invention is to provide an incinerator in which the supply of heat is regulated in accordance with the weight of the material to be incinerated.

Another object of the invention is to provide an incinerator in which the material is supported by a movable container part connected to the fuel control valve to regulate the supply of fuel in accordance with the position of the container part. Preferably, the container part is pivotally supported at one end and is suspended on springs at its other end, yieldingly to balance the weight of the material carried thereby.

Still another object of the invention is to provide an incinerator in which the supply of heat is varied between maximum and minimum limits in accordance with variations in the amount of material to be incinerated.

The above and other objects, advantages, and novel features of the invention will be apparent from the following description when read in connection with the accompanying drawing, in which the single figure is a perspective view, with parts broken away, of an incinerator embodying the invention.

The illustrated incinerator comprises an outer casing 1 of generally rectangular shape, having a filling opening in its top closed by a hinged cover 2. An ash drawer 3 is slidably mounted in the bottom of the casing to receive ashes, and may easily be removed when desired.

Within the upper part of the casing, there is mounted a container for garbage, trash, and like material to be incinerated. As shown, the container is formed with an upper portion, including rectangular walls 4 fixedly mounted in the upper part of the casing and spaced from the sides thereof. The space within the walls 4 communicates with a flue 5, which extends through one side wall of the casing, a screen 6 being mounted in the container to prevent entry of large particles of material into the flue.

The open bottom of the container walls 4 is closed by a lower container portion, including side walls 7 telescopically surrounding the walls 4, and a V-shaped bottom formed by a solid bottom wall 8 and a screen 9. The screen 9, as shown, is slidably supported between flanges formed on the sides 7 and has a shaker bar 10 connected thereto and extending through the casing. By this means the screen may be shaken

periodically to cause ashes supported thereon to drop through into the drawer 3.

The lower container portion is adapted to be movably supported in the casing, and for this purpose is formed at one end with lugs or ears 11, carrying adjustable screws 12, which rest on a flange or angle-iron 13 secured to the casing. This construction provides a pivotal support for one end of the container bottom portion, and the opposite end of this portion is suspended on tension springs 14, connected to an angle-iron 15, carried by one of the fixed container walls 4. Due to this construction, the lower container portion is adapted to move about its pivotal support in response to the weight of material to be incinerated in the container, the springs 14 serving as a balance against which the weight of the material acts.

Below the screen 9, there is fixedly mounted on the casing a fluid fuel burner 16, shown as comprising a gas pipe discharging below the screen 9. Flow of fuel to the burner 16 is controlled by a valve 17 fixedly carried by the casing 1, and adapted to regulate the fuel supply between minimum and maximum limits. The valve 17 is regulated by the connection 18 to a lug or ear 19 rigidly carried by the solid bottom portion 8 of the container. In this way, movements of the container bottom portion regulate the valve 17 to increase or decrease the fuel supply, as required.

In operation, with the container empty, the springs 14 will raise the bottom portion thereof, pulling on the connection 18 to close the valve 17 to its minimum opening. This minimum opening may provide a relatively small flame in the neighborhood of 400 B. t. u. per hour. As material is loaded into the container, the bottom portion thereof will move downwardly to a greater or less extent about the pivotal mounting 12—13, thereby pushing on the connection 18 to open the valve 17 and increase the fuel supply. The valve is preferably so adjusted that in its maximum open position, which it will occupy when the container is substantially full, it will supply fuel to the burner at the rate of approximately 2500 B. t. u. per hour per bushel of material to be incinerated. It will be understood that the springs 14 may be adjusted to regulate the valve 17 in any desired manner. With this construction, the burner is operating continuously, and due to the relatively low rate of heat supplied, the material will be incinerated relatively slowly. As the material is burned out, the ash drops through the screen 9 into the drawer 3, and decreases the weight acting on the lower con-

tainer portion so that the springs 14 tend to raise this portion and reduce the valve opening. The supply of fuel is thus automatically regulated in accordance with the demands of the incinerator.

While one embodiment of the invention has been shown and described in detail, it will be understood that this is illustrative only, and is not to be taken as a definition of the scope of the invention, reference being had for this purpose to the appended claims.

What is claimed is:

1. An incinerator comprising a frame, means in the frame forming a container for material to be incinerated and including a part pivotally mounted in the frame for movement in response to the weight of the material, balancing means yieldingly resisting movement of said part about its pivotal mounting, means for supplying heat to material in the container, and control means for the heat supplying means connected to said part to be controlled thereby to regulate the rate of heat supply in accordance with the weight of material in the container.

2. An incinerator comprising a frame, a carrier for supporting material to be incinerated, means at one end of the carrier for pivotally connecting it to the frame, resilient means yieldingly supporting the opposite end of the carrier so that it may move in response to the weight of the material, said carrier having a perforated bottom portion, a fluid fuel burner underlying the perforated bottom portion, a valve controlling the supply of fuel to the burner, and a connection between the valve and carrier to adjust the valve opening in accordance with movement of the carrier to regulate the supply of fuel to the burner in accordance with the weight of material in the carrier.

3. An incinerator comprising a casing, a vertical tubular container part fixedly mounted in the upper part of the casing spaced from the casing and open at its lower end, a container bottom part movably mounted below the open bottom of the tubular container part having vertically extending side portions fitting loosely around the lower end of the tubular container part, resilient means urging the bottom part upwardly toward the fixed container part, the bottom part being movable against the resilient

means in response to the weight of material thereon, heating means in the casing below the bottom part, control means for the heating means, and means connecting the control means to the bottom part to be regulated thereby to regulate the heat supply in accordance with the weight of material on said bottom part.

4. An incinerator comprising a casing, a vertical tubular container part fixedly mounted in the upper part of the casing spaced from the casing and open at its lower end, a container bottom part movably mounted below the open bottom of the tubular container part having vertically extending side portions fitting loosely around the lower end of the tubular container part, resilient means urging the bottom part upwardly toward the fixed container part, the bottom part being movable against the resilient means in response to the weight of material thereon, the container bottom part having a perforated bottom wall, a fluid fuel burner mounted in the casing below the perforated bottom wall, a valve controlling the burner, and a connection from the bottom part to the valve to vary the supply of fuel to the burner in accordance with the weight of material on the bottom part.

5. An incinerator comprising a casing, a vertical tubular container part fixedly mounted in the upper part of the casing spaced from the casing and open at its lower end, a container bottom part movably mounted below the open bottom of the tubular container part having vertically extending side portions fitting loosely around the lower end of the tubular container part, the bottom part being movable in response to the weight of material thereon, the container bottom part having sloping bottom walls at least one of which is perforated, means at one side of the bottom part to support it in the casing for pivotal movement, resilient means yieldingly supporting the opposite side of the bottom part, a fluid fuel burner mounted in the casing below the perforated bottom wall, a valve fixedly mounted in the casing for regulating the supply of fuel to the burner, and a direct connection between the valve and the bottom part to control the extent of valve opening in accordance with movement of the bottom part.

FRANCIS A. FURLONG.