March 24, 1925. 1,530,787

R. E. OBERST

FEED DOOR FOR GARBAGE INCINERATORS

Filed May 12, 1924

Fig. 1.

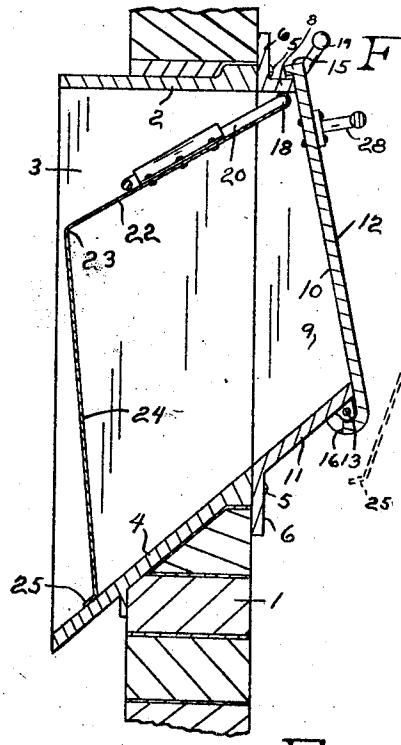


Fig. 2.

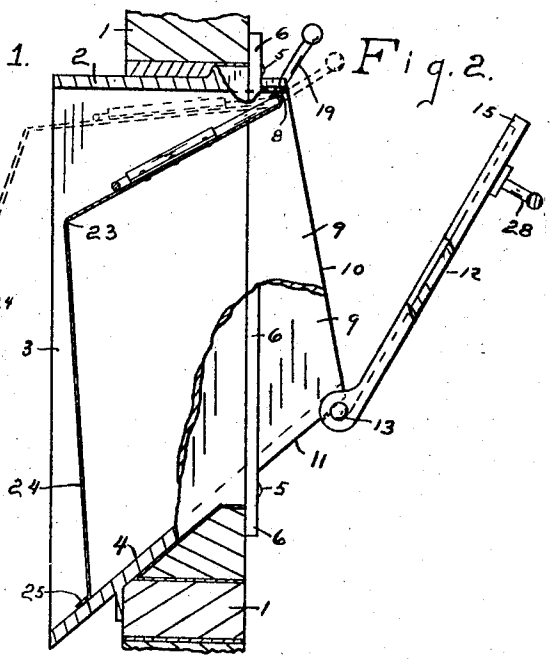


Fig. 3.

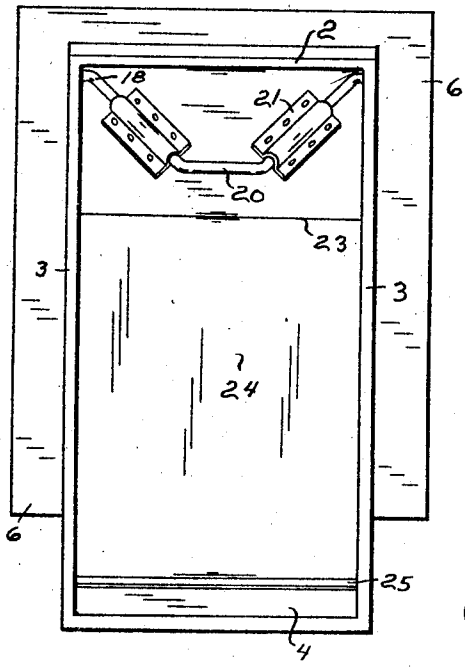
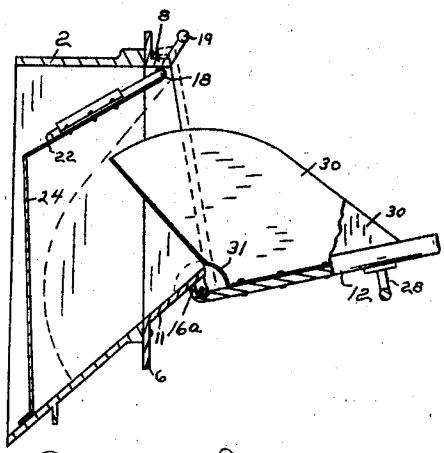


Fig. 4.



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UNITED STATES PATENT OFFICE.

RICHARD E. OBERST, OF MILWAUKEE, WISCONSIN.

FEED DOOR FOR GARBAGE INCINERATORS.

Application filed May 12, 1924. Serial No. 712,873.

To all whom it may concern:

Be it known that I, RICHARD E. OBERST, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Feed Doors for Garbage Incinerators, of which the following is a specification.

My invention relates to improvements in feed doors or gates for garbage incinerators, with particular reference to that class of incinerators known as chimney incinerators, in which the garbage is burned upon a grate located in the lower portion of a chimney. Garbage incinerators of the general type to which this invention relates are disclosed in my former Patent Number 1,321,239, dated November 11, 1919.

The object of the present invention is to provide means whereby garbage may be dumped into a chimney from any one of several superposed apartments of a dwelling without allowing smoke or soot to escape from the chimney into the room while the garbage is being delivered.

In the drawings:

Figure 1 is a vertical sectional view of a portion of a chimney wall embodying my invention, a section being taken on a plane through the central portion of the feed opening through which the garbage is inserted into the chimney, and all of the parts being illustrated in normal position.

Figure 2 is a similar view, showing the main feed door in open position and the inner door in closed position, with dotted lines indicating the open position of the inner door.

Figure 3 is a view of my improved feed door as seen from the inner side.

Figure 4 is a view similar to Figure 2, showing a modification.

Like parts are identified by the same reference characters throughout the several views.

The chimney wall 1 is provided with an opening of a suitable size to receive the frame of my improved feed door. This frame is preferably composed of two members. One constitutes a lining frame member adapted to fit the chimney opening and comprises a top wall 2, side walls 3, and an inclined bottom wall 4. The other frame member is secured to the first mentioned member by bolts or screws 5 and is provided with flanges 6 which fit against the wall of the chimney around the opening. In the construction shown, this frame member supports an upper and an inner door and for convenience will be referred to as the door supporting frame member. It has an upper wall 8, side walls 9, and a bottom wall 11, the latter constituting a continuation of the wall 4. The side walls 9 are continuations of the walls 3 and these walls 8, 9, and 11, project into the kitchen or other room of the building. The inner margins 10 of the walls 9 incline downwardly and forwardly and a main door 12 is hinged at 13 to the wall 11 and is adapted to swing to a closed position against the margins 10 of the wall 9 and against the front margin of the top wall 8. The upper margin of the door 12 is preferably provided with a flange 15 which extends over the flange 8 when the door is in closed position. The butts of the hinge are integral with the door 12 and the intermediate butts are formed with shoulders 16 which engage the under surface of the wall 11 to limit the swinging movement of the door to open position, as indicated in Figure 2.

An interior sheet metal door has hinged connection with the upper ends of the supporting frame walls 9 by a cross rod 18. This cross rod extends through the walls 9 and at one end is provided with a handle 19. Intermediate of its ends it is bent to form a crank-shaped arm 20, as best shown in Figure 3, and this arm is secured by clips 21 to a downwardly and inwardly inclined portion 22 of the inner or auxiliary door 24.

The inner or auxiliary door is elbowed at 23 and the portion 24 extends downwardly to the inclined wall 4 of the lining frame member for the chimney opening. At the lower margin of the portion 24 of the inner door it is preferably provided with a flange 25 adapted to rest upon the inclined wall 4 when the auxiliary door is in its closed position. The inner and main door, when closed, form a charging chamber within the frame.

Assuming both doors to be closed, as shown in Figure 1, it will be understood that the door 12 may be opened by pulling upon its handle 28 to swing it to the position in which it is shown in Figure 2, whereupon the garbage may be dumped through the opening and allowed to fall upon the

inclined bottom wall 4 or upon the walls 4 and 11. Thereupon, door 12 will be closed and the auxiliary door opened by pulling downwardly on the handle 19, the portion 22 swinging upwardly toward the frame wall 2 upon the axis of the hinge rod 18. The portions 22 and 24 of the auxiliary or inner door span the space between the walls 3 of the lining frame member and therefore close the opening completely until swung inwardly toward open position from the closed position indicated in Figure 1. Therefore, if the doors 7 and 24 are opened in alternation, the escape from the chimney of smoke, soot, or cinders is prevented.

The construction above described is peculiarly adapted to the stated purpose, if it is desired to deliver the garbage into the chimney in packages. By first enclosing the garbage in a newspaper or combustible box or covering and then opening the main door 12 and placing it in the frame, contact of the garbage with the bottom members 4 and 11 will be prevented. The package will of course slide downwardly and inwardly to the door 24, and when the latter is swung to open position, the package will immediately pass to the interior of the chimney. The walls of the door frame will in such case be kept in a perfectly sanitary condition, and owing to the fact that the two doors are never open at the same time, there will be little tendency toward accumulations of soot or material of any kind between the doors and no tendency whatever to allow smoke to escape into the room from which the garbage is being delivered.

In Figure 4 I have shown a slight modification in which the door 12 is provided with inwardly projecting side wings 30 and a connecting wall 31 extending from one side wing to the other. As shown, this connecting wall is curved in an arc inwardly far enough to protect the hinge from such loose garbage as may be placed between the wings 30. It is not material to the invention how much further this wall 31 extends inwardly.

The shoulders 16^a of the intermediate hinge butts are so located that the door 12 is allowed to swing open to a greater extent than in Figures 1 and 2, this being desirable if the garbage is not packaged preparatory to delivery into the chimney.

I claim:

1. A feeding door structure for incinerators comprising a frame adapted to be fitted to a chimney opening and having an inclined bottom wall, a main door in hinged connection with the front margins of said frame, an elbowed auxiliary door having a hinged connection with the upper portion of the frame adjacent the main door and normally extending inwardly and downwardly from said hinge connection to the bottom of the frame, said auxiliary door having a hinge pin provided with an operating handle rigidly secured to the auxiliary door, whereby said door may be opened by manipulation of said handle.

2. The combination with an incinerator wall provided with an opening, of a lining frame member for the margins of the wall around said opening, an inclined garbage receiving bottom for said lining frame member, a co-operating door supporting frame member projecting from the front face of said wall and connected with the lining frame member, and a pair of spaced doors each adapted to close said opening, one of said doors having its lower margin hinged to the bottom of the co-operating frame member and adapted for limited outward swinging movement to open position, the other door member having its upper margin hinged to the side walls of the co-operating member and adapted to swing inwardly to open position.

3. The combination with an incinerator wall having a feed opening, of a door frame mounted in said feed opening, an outwardly swinging door supported from said frame, a co-operating door having portions spaced from the first mentioned door and adapted for inward swinging movement to open position, and means for actuating each door independently of the other from the same side of the incinerator wall.

4. In a door structure, the combination with a main door and its frame member, of an auxiliary door hinged to the frame member at its upper margin and extending inwardly and downwardly at an angle from the vicinity of the main door and having an elbowed portion extending downwardly at a greater angle to the bottom of a second frame member in spaced relation to the main door, and means for actuating the auxiliary door when the main door is closed.

RICHARD E. OBERST.