

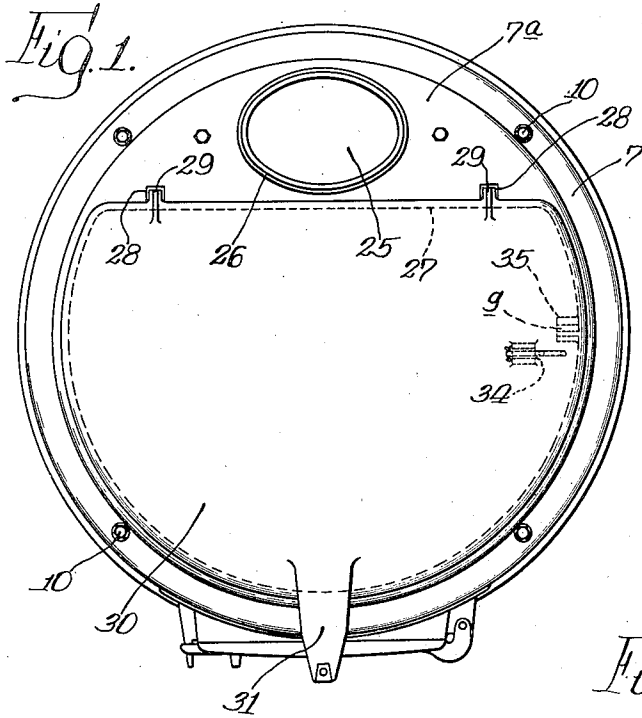
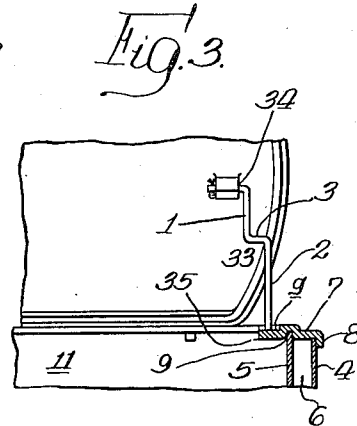
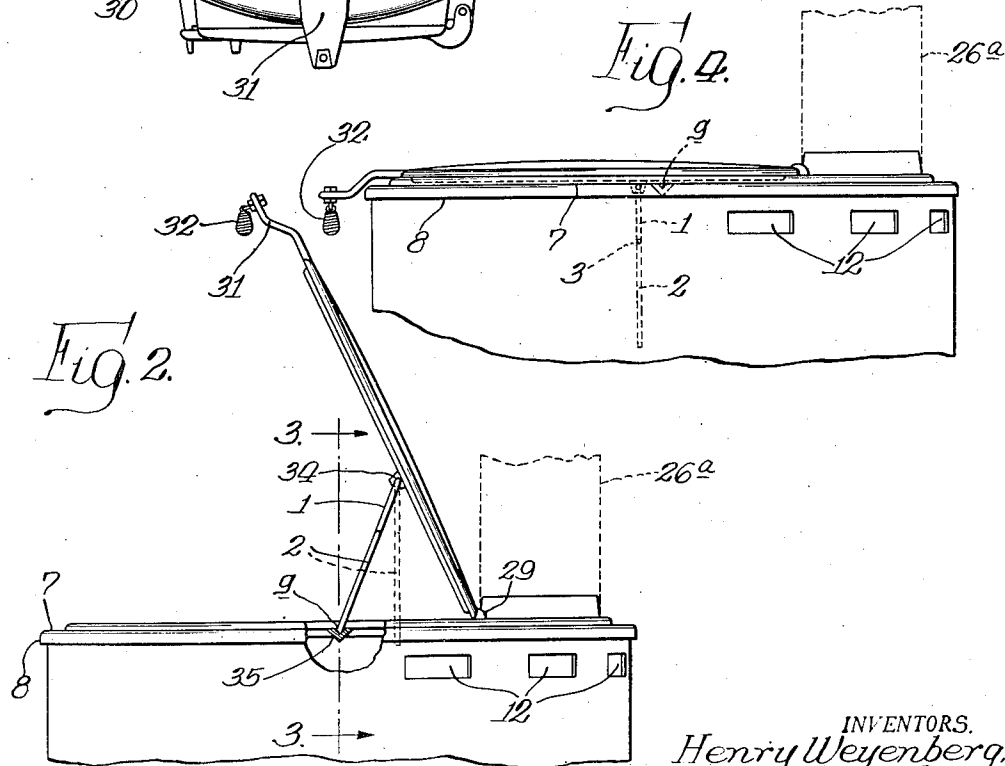
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2,473,624

INCINERATOR

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INCINERATOR

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2. Claims. (Cl. 217-60)

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This invention relates to an incinerator designed primarily for domestic use for consuming household rubbish and garbage. This application is a division of our copending application Serial No. 534,029, filed May 4, 1944; now matured into Patent No. 2,443,524, issued on June 24, 1948.

Among the objects of our invention is to provide a novel and improved incinerator; to provide a novel arrangement of cover, and latch for holding the cover in open position; to provide a gravity operated latch device for holding the cover in open position and which by merely moving the cover a small amount further in the opening direction will free the latch and permit it to ride over a supporting lug during the closing of the cover and hang within the incinerator when the cover is closed; to provide a gravity latch that will be easily operated when the cover is opened; and such further objects, advantages and capabilities, inherently possessed by our invention, as will later more fully appear.

In the drawings:

Fig. 1 is a top plan view of an incinerator embodying our invention.

Fig. 2 is a fragmentary side elevation of the upper portion of the incinerator of Fig. 1, and showing the cover in raised position.

Fig. 3 is a fragmentary vertical section on the line 3-3 of Fig. 2.

Fig. 4 is a fragmentary side elevation of the upper portion of the incinerator of Fig. 1 and showing the lid in closed position.

While there is illustrated in the drawings and hereinafter described, a preferred form of our invention, it is contemplated that various modifications may be made by those skilled in the art without departing from the spirit and scope of the appended claims.

Referring more in detail to the drawings the incinerator embodying our invention comprises a suitable bottom (shown in detail in our said copending application) having an upstanding cylindrical outer wall 4 and an upstanding cylindrical inner wall 5. The annular space 6 between these walls is closed at the top by a ring 7 having a marginal flange 8 overlapping the outer wall 4 and a shoulder 9 which positions the inner wall 5. The ring 7 is connected to the bottom by tie rods 10 which thus hold the principal elements of the receptacle in assembled relation.

The space 11 within the cylindrical wall 5 constitutes the combustion chamber while the annular space 6 between the walls 4 and 5 serves as an air passage through which air is led to the combustion chamber. For this purpose the outer

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wall 4 is provided with a plurality of air inlet ports 12 in its upper portion, any number of which inlet ports may be used as desired, and which inlet ports are preferably disposed in the rear upper portion of the incinerator. The air entering the ports 12 flows downwardly and around within the annular space 6 to the lower portion thereof. The other portions of the incinerator, except for the cover, will not be here set forth in detail as they are fully described and claimed in our said copending application.

At the rear of the structure the ring 7 includes a segmental portion 1a having an opening 25 which serves as the smoke outlet for the incinerator and which is surrounded by a flange 26 for connection with a smoke pipe indicated in dotted lines at 26a in Fig. 2. Adjacent the straight edge 27 of the area 1a this top casting includes squared openings 28 to receive the rounded hinge lugs 29 of the cover 30 which completes the closure of the upper end of the incinerator and rests upon the inner marginal portion of the ring 7 when in closed position as shown in Fig. 1. An arm 31 projects from the forward edge of the cover 30 and is provided with a coiled wire handle 32 of the heat radiating type by which the cover may be swung upwardly for access to the interior of the receptacle. A latch member or brace arm indicated generally at 33 is pivotally hung from the underside of the cover or lid at 34. The latch member 33 comprises the inner arm 1, an outer arm 2, and a cross member 3 integrally connecting the inner arm and outer arm together. As the lid is raised the outer arm 2 will ride over the front edge of the inwardly projecting lug 35, which lug is preferably formed in its upper surface with a groove g, and when the lower end of the outer arm 2 reaches the upper side of lug 35 it will rest in groove g and hold the lid in such upwardly adjusted position. As shown in Figs. 1-3 the lug 35 projects inwardly from the ring 7 so that the latch 33 serves as a prop to hold the cover in raised position as shown in Fig. 2.

From this construction it will be seen that the inner arm 1 is spaced inwardly from the inner end of lug 35 so as to clear the same at all times during the swinging movements of the lid. Also it will be seen that the outer arm 2 is in vertical alignment with the lug 35 so as to ride over either the front edge or the rear edge of this lug during the raising and lowering of the lid. As stated, when the lid is raised the outer arm 2 rides over the front edge of lug 35 until the lower end of the outer arm rests in groove g to hold the lid in raised position. To release the latch it is only

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necessary to push the cover 30 upwardly a little beyond the position shown in Fig. 2 thus allowing the latch to swing clear of the lug 35 into a vertically pendant position, as shown in dotted lines in Fig. 2. The cover is then lowered during which movement the outer arm 2 will ride downwardly against the rear face of the lug until the cross member 3 passes below the lug, allowing the latch to swing forward into position to ride over the front edge of the lug 35 when the cover is again raised. This makes it possible to raise or lower the cover with one hand and without touching the latch 33 which is likely to be coated with soot as a result of its position in the incinerator during the burning of the material therein. As noted in Fig. 2 the pivotal connection 34 of the upper end of the latch member with the lid is so positioned as to be behind the lug 35 when the lid is in the raised position shown in Fig. 2 to permit the latch member to swing rearwardly at its lower end, as shown in dotted lines in Fig. 2, to pass downwardly and inwardly of the lug until the cross member 3 clears the lug, at which time the pivotal connection 34 will be in front of the lug as shown in dotted lines in Fig. 4, for reasons pointed out above.

The hinge lugs 29 are preferably not fastened in place but merely fitted loosely into the openings 28 into which they swing when the cover is raised, but if desired any form of hinge joint may be used in this connection. While for illustrative purposes we have shown and described our improved latch member as being applied to the lid of an incinerator, we wish it understood that the same may be used in other forms of receptacles having a lid thereon and which lid may be swung to open or closed position.

We claim as our invention:

1. In an incinerator having side walls forming a combustion chamber and a top frame therefor, a cover for said chamber hinged to said top frame and opening upwardly and having a gravity operated latch device to hold the cover in open position, said latch device comprising a rod pivotally hung from the under side of said cover and a lug fixed to said top frame and extending inwardly beyond said side walls and into the top portion of the combustion chamber space, said lug being positioned between the cover hinge and the pivot of the rod when the cover is in closed position and being nearer the pivot of the rod than that of the hinge, said lug having an upwardly opening groove in its top face, said rod

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having two parallel offset arms connected together at their adjacent ends by a cross member so that the upper one of said arms is positioned inwardly of the inner end of said lug and the lower arm is positioned outwardly of the inner end of said lug, said cross member being intermediate of the length of said rod to swing freely under said lug when the cover is partially closed and to be a distance above the lug equal to the length of the lower arm when the cover is latched open, whereby when opening the cover the lower arm will ride over the front edge of said lug and have its free end fall into said groove to hold the cover open, and when the cover is further raised and then lowered the rod will swing freely rearwardly of the lug and as the cover is further lowered said lower arm will ride over the rear edge of the lug and when the cross member passes beyond the lug it will freely swing forwardly below the lug.

2. An incinerator latch device as claimed in claim 1, in which the upper end of the inner upper one of said arms is pivoted to the cover, and the lower end of the outer lower one of said arms is free of any lateral projections, and said cross member is connected to the adjacent ends of said arms by a pair of approximately rectangular offset bends, said rod being freely swingable in said combustion chamber at all times except when in contact with said lug during a part of the opening and closing movement of the cover and when the cover is latched open.

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