March 25, 1924. 1,487,943

A. C. HOLMQUIST

HOUSEHOLD GARBAGE BURNER

Filed April 23, 1923

Fig. 2.

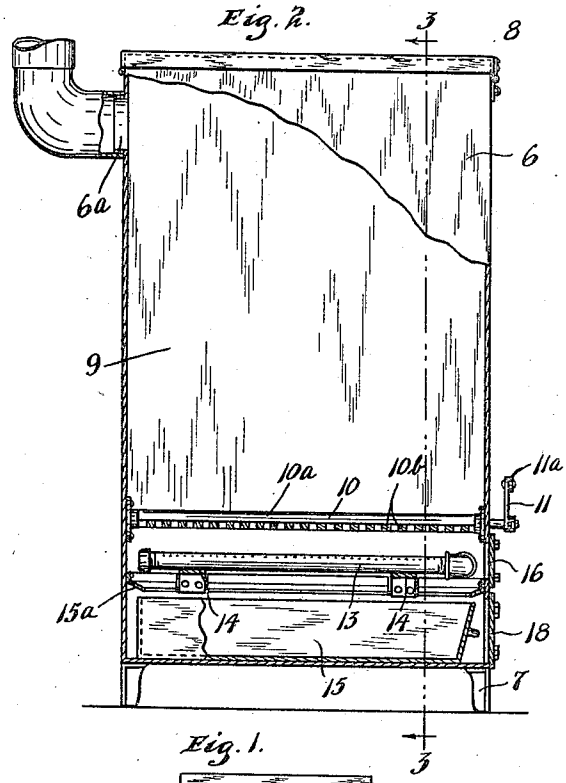


Fig. 3.

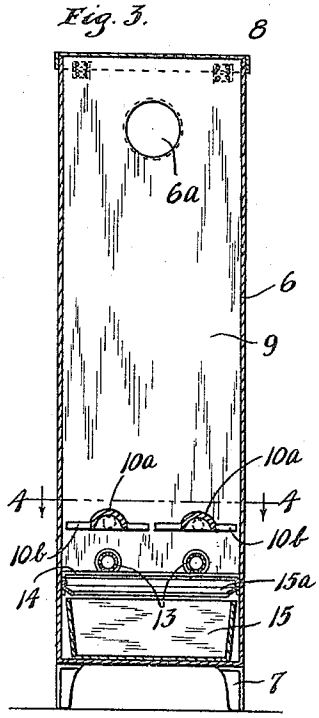


Fig. 1.

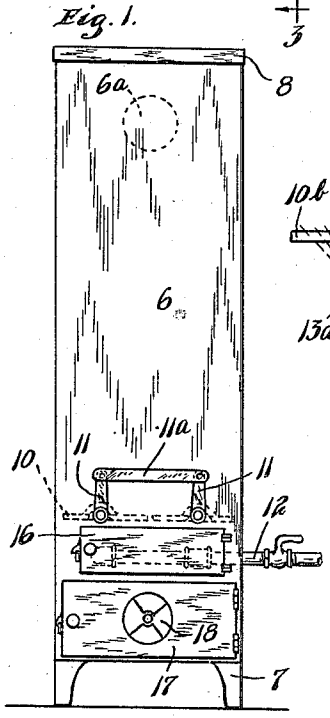


Fig. 5.

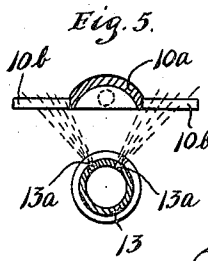
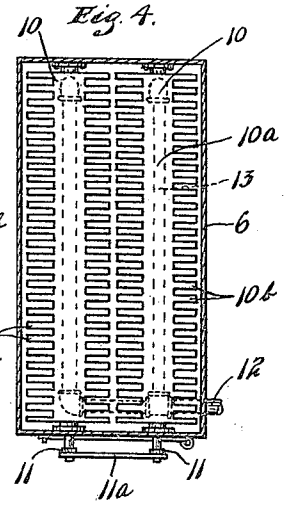


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALBERT C. HOLMQUIST, OF MINNEAPOLIS, MINNESOTA.

HOUSEHOLD GARBAGE BURNER.

Application filed April 23, 1923. Serial No. 633,826.

To all whom it may concern:

Be it known that I, ALBERT C. HOLMQUIST, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Household Garbage Burners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide a simple but highly efficient garbage burner designed for household use and employing gas or oil for its fuel.

A great objection to garbage burners as hitherto employed, using gas or oil, has always been that the drippings from the garbage would be continuously dripping through the grate and collecting on the burner, often putting out the flame and plugging up the gas outlets, thus not only becoming inefficient to burn the garbage but also making a dangerous explosion probable.

The applicant's invention was especially designed to eliminate this difficulty and serve the other purposes above stated and, generally stated, consists of the novel devices and combination of devices herein described and hereinafter pointed out in the claims.

My invention, in its preferred, form is illustrated in the accompanying drawings wherein like notations refer to similar parts throughout the several views, and, in which—

Fig. 1 is a front elevation of the device;

Fig. 2 is a left side view, partly in elevation and partly in vertical section;

Fig. 3 is a vertical cross section taken on the line 3—3 of Fig. 2;

Fig. 4 is a horizontal cross section taken on the line 4—4 of Fig. 3; and

Fig. 5 is an enlarged detail cross section of a burner and a part of one of the grate bars.

The numeral 6 indicates a suitable casing closed at its bottom, herein shown of rectangular form, supported on legs 7 and having a garbage receiving door 8 preferably hinged to the top of the casing and a smoke outlet 6^a cut in the back of the casing near the top thereof. The main and upper portion of the casing forms a garbage combustion chamber 9 having journaled, near its bottom, parallel rocking grate bars 10, of comb-like structure. These bars 10 have relatively wide imperforated central portions 10^a of concavo-convex cross section with their convex surfaces uppermost and toothed portions 10^b extending at each side thereof. The journals at the front end of the bars are extended through the casing and equipped with small cranks 11 cross-connected by a suitable shaker link 11^a, which permits the bars to be rocked to shake out the ashes therefrom. A valved gas supply pipe 12 enters the casing 7 slightly below the grate bars 10 and connects with a series of gas burners 13 supported on a pair of angle bars 14 secured to the sides of the casing 6. These gas burners are preferably in the form of elongated pipes perforated on their upper sides and closed at their extremities and situated directly below and vertically aligned with the imperforated central portions 10^a of the grate bars. The gas outlets or perforations of the burners designated by the numeral 13^a are thus spanned by the imperforated portions 10^a of the grate bars 10, but are radially drilled in the top of the burner pipes 13 so that when the burner is lit, the flame jets will strike the open toothed portions 10^b of the grate bars 10. An ash receiving pan 15 rests on the bottom of the casing 6 and narrow guide strips 15^a, encircling the inner perimeter of the casing 6 and secured thereto just above the pan 15, guide all the ashes and drippings into the pan 15. On the front of the casing, in horizontal alinement with the burner pipes 13, is a small door 16 to give access to the burners and, just below the door 16, at the bottom of the front of the casing 6, is a large door 17 giving access to the ash pan 15 and equipped with a draft regulator 18.

With the above described construction, it is obvious that drippings or ashes falling through the grate or shaken through the grate will not strike or collect on the burners 13, since the latter are spanned by the imperforated central portions 10^a of the grate bars directly above, but will fall down between the burners 13 and into the ash pan 15. The convex shaped top surfaces of the central portions 10^a of the grate bars will prevent drippings or ashes from collecting on the top thereof and will cause them to slide down through the toothed portions

10^b of the grate bars, while the concave under surfaces of the central portions will prevent the moisture and drippings from running back underneath the grate bars and dropping down on the burners, so that all ashes, drippings and moisture must drop straight through the open portions 10^b of the grate bars and between the burners below.

The garbage is conveniently dumped in through the top of the casing and may then be burned without danger of the burners being put out or clogged up.

The device is especially adapted for household use and extensive actual usage has proven it to be highly efficient for the purposes above named and described.

It will, of course, be understood that various changes in form, detail and arrangement of parts may be made without departing from the scope of the invention.

What is claimed is:

1. A household garbage burner having in combination, a suitable combustion chamber, a grate at the bottom of said chamber having open portions and also imperforate portions and a gas burner comprising perforated pipes spaced beneath and vertically alined with said imperforate portions and directly below the same having its gas outlets spanned by the imperforate portions of said grate.

2. A household garbage burner having in combination, a suitable combustion chamber, comb-like grate bars at the bottom of said chamber having imperforate longitudinally extending portions of concavo-convex section with their convex surfaces uppermost and a gas burner spaced from and directly beneath said imperforate portions of said grate bars and of less width than the same.

3. The structure set forth in claim 2, said imperforated portions having spaced edges formed by downwardly directed surfaces whereby fluid will drip therefrom outside of said gas burner.

4. A household garbage burner having in combination, a suitable combustion chamber, a series of comb-like grate bars journaled at the bottom of said chamber having central imperforate portions of concavo-convex cross section with their convex surfaces uppermost, and a series of gas burners spaced from and vertically alined with said central portions of said grate bars directly beneath the same and having gas outlets spanned by said imperforate portions and arranged to direct their flame jets into the open parts of said grate members.

5. In a household garbage burner, the combination with a suitable combustion chamber having a garbage receiving door at its top, of a series of comb-like grate bars journaled to the bottom of said chamber and having imperforate central portions of concavo-convex cross section with their convex surfaces uppermost and gas burners in the form of a series of elongated perforated pipes vertically alined with said imperforate central grate portions and directly beneath the same, and having their gas outlets spanned by said central grate portions but radially drilled in said burner pipes and spaced so that their flame jets will strike the open toothed portions of said grate bars.

6. A device of the class described having in combination, a grate bar, a burner beneath said grate bar, said bar having a longitudinal edge formed by downwardly directed surfaces, said edge being out of vertical alinement with said burner whereby any liquid will drop from said edge and the drippings from said edge will not strike said burner.

7. A device of the class described having in combination, a grate bar, a burner spaced beneath and extending longitudinally of said bar, said bar having spaced edges at its lower side, said edges formed by downwardly directed surfaces and being disposed outwardly of said burner whereby any drippings from said edges will drip outside of said burner.

In testimony whereof I affix my signature.

ALBERT C. HOLMQUIST.