

Dec. 14, 1926.

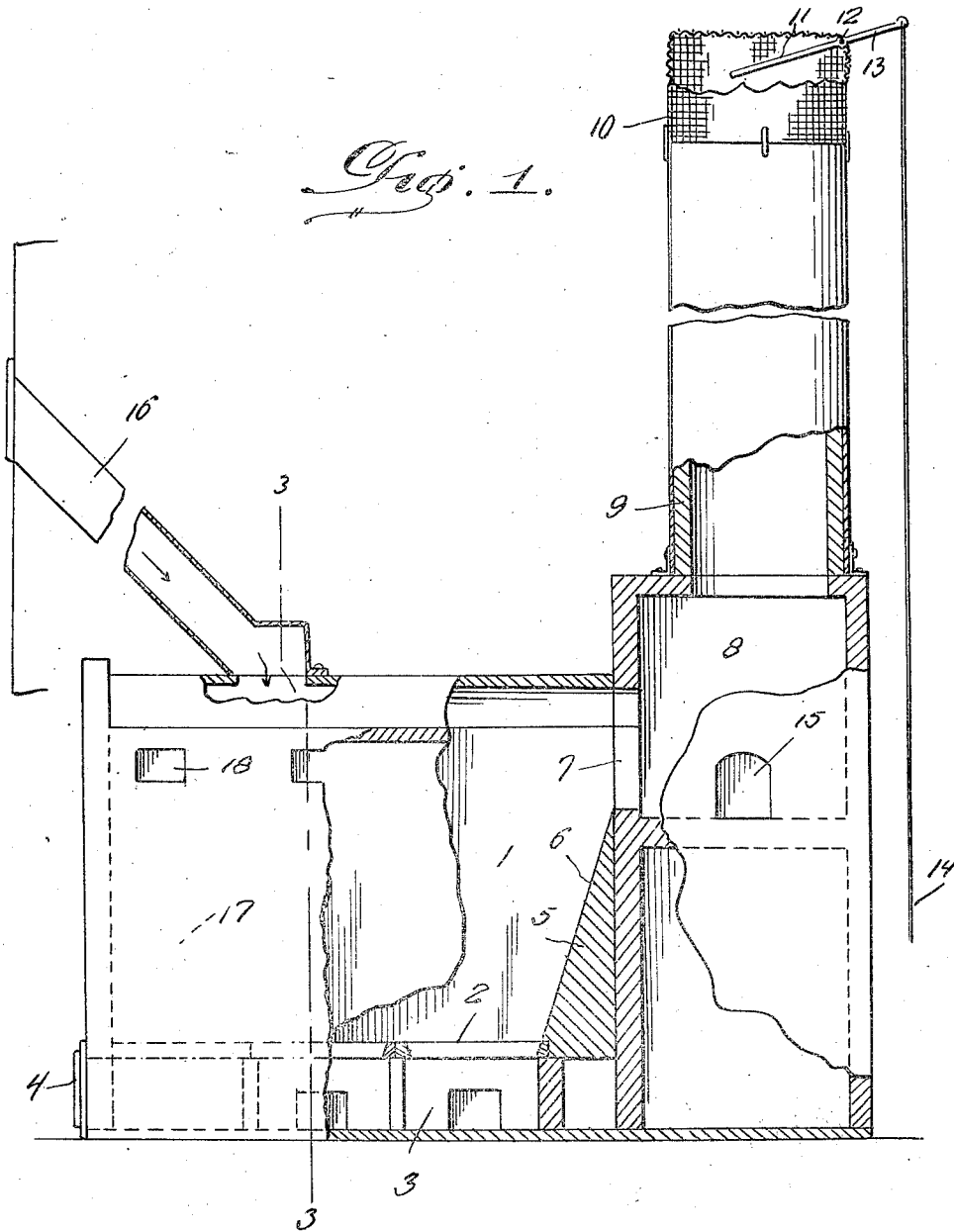
J. P. LAMBERT

1,610,558

REFUSE BURNER

Filed Jan. 29 1926

2 Sheets-Sheet 1



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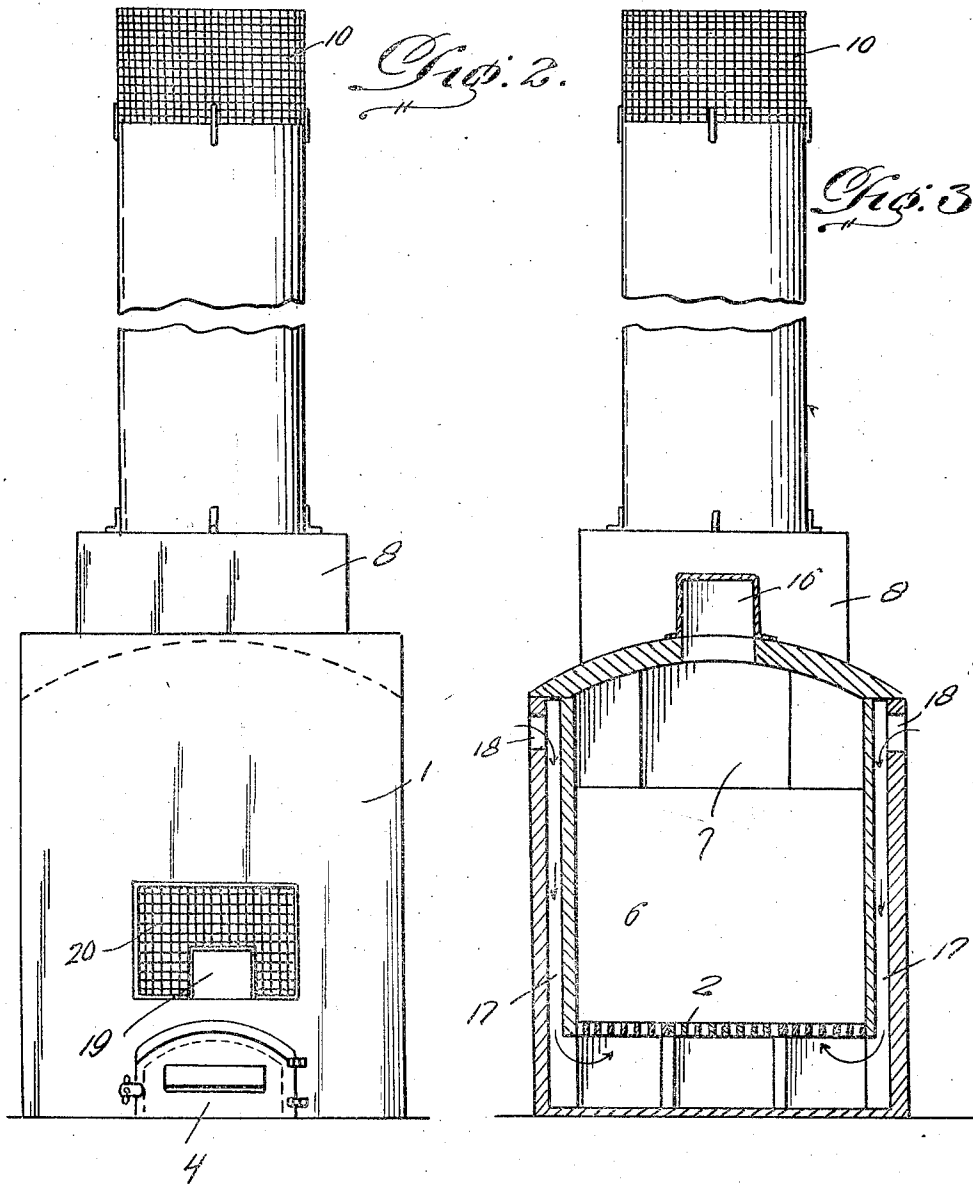
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UNITED STATES PATENT OFFICE.

JOSEPH P. LAMBERT, OF PORTLAND, OREGON.

REFUSE BURNER.

Application filed January 29, 1926. Serial No. 84,675.

My present invention has to do with the destruction of refuse; and it contemplates the provision of a refuse burner which while simple and inexpensive in construction and adapted to be efficiently operated with but little attention is possessed of the practical advantages hereinafter ascribed to it in general and also ascribed to certain of its features explicitly referred to.

With the foregoing in mind the invention in all of its details will be fully understood from the following description and claims when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:—

Figure 1 is a view, partly in side elevation and partly in vertical section, illustrating the refuse burner constituting the best practical embodiment of my invention of which I am cognizant.

Figure 2 is a front end elevation of the burner.

Figure 3 is a vertical cross section taken in the plane indicated by the line 3—3 of Figure 1.

Similar numerals of reference designate corresponding parts in all of the views of the drawings.

Among other elements my novel refuse burner comprises a combustion chamber 1 which may be and preferably is formed of concrete lined with fire brick but which may be specifically constructed in any other manner consonant with the purpose of my invention without affecting the same. A grate 2 of appropriate character is provided at the bottom of the combustion chamber 1, and below the grate is an ash pit 3, the door to which is designated by 4, Figures 1 and 2. At the back of the combustion chamber 1 is a transverse wall 5 with an inclined face 6 which extends upwardly to an opening 7 intermediate of the rear end of the upper portion of the combustion chamber 1 and a cold air compartment designated by 8. The cold air compartment 8 is also formed of appropriate material or materials and is in direct communication with a suitably constructed uptake 9 which is preferably, though not necessarily, equipped at its upper with a spark arrester 10 of suitable reticulated material. I would also have it understood at this point that when deemed expedient a vertically swingable striker 11 may be located in the spark arrester 10, the

said striker 11 being pivoted at 12 and having an arm 13 exterior of the arrester 10 and to which is connected a pendent operating rod 14 through the medium of which the striker 11 may be manipulated for the displacement by concussion of the striker against the screen of soot accumulations and the like.

The cold air compartment 8 is provided in its side walls with openings 15 for the entry at all times of atmospheric air.

At 16 is a chute of inclined character through which refuse to be destroyed is conveyed to a point within the combustion chamber 1 at the top thereof.

The side walls of the combustion chamber 1 are hollow as designated by 17. The upper portions of these air spaces 17 are connected at all times with the atmosphere through the medium of openings 18, Figures 1 and 3, and the lower ends of the said spaces 17 are in full and free communication with the ash pit 3. By virtue of this provision it will be manifest that ample air for the support of combustion will be conducted to the ash pit 3, and at the same time the side walls of the combustion chamber 1 will be adequately cooled.

As best shown in Figure 2, the front wall of the combustion chamber 1 is provided with a manhole 19, and is also provided with a reticulated frame 20 above and at opposite sides of the said manhole. Manifestly this provision assures the supply of an ample quantity of atmospheric air at all times in the front portion of the combustion chamber 1.

An important feature of my invention resides in the fact that my burner is free of doors, gates, shutters or analogous devices for regulating currents of air, but on the other hand the regulation of the air supply is controlled by the requirements in the combustion chamber 1. This will be better understood when it is stated that the operation of my novel burner is based upon a plurality of automatic drafts that center in and control the mass in the combustion chamber 1 so that as air is required air is automatically supplied by the conditions arising from the volume of the burning mass, and in this way a cushion of air is constantly formed automatically as required, the same being supplied through the medium of the air induction means dis-

closed. Nothing is permitted to escape from the combustion chamber save hot air and gas which striking the rear of the combustion chamber 1 and being deflected to or
 5 caused to enter the automatically cooled compartment 8 and passing from said compartment 8 through the uptake 9 is cooled by the compartment 8 so that the uptake or stack 9 is never unduly hot. Again it will
 10 be understood that the cushion created in the manner described operates to exert downward pressure on the burning mass so as to assure combustion of the mass from the base and interior thereof, and lessening the
 15 liability of cinders being formed and also lessening the liability of a considerable amount of ashes being left.

It follows from the foregoing that but little heat is radiated from my novel burner
 20 including the uptake or stack 9, as is desirable.

Notwithstanding the practical advantages of my novel refuse burner as described, it will be noted that the burner is simple and
 25 inexpensive in construction, and, in addition to the before mentioned advantages, the burner is materially advantageous inasmuch as it requires during operation practically no attention other than the feed of refuse to the
 30 combustion chamber 1.

I have entered into a detailed description of the construction and relative arrangement of the parts embraced in the present and preferred embodiment of my invention
 35 in order to impart a full, clear and exact understanding of the said embodiment. I do not desire, however, to be understood as confining myself to the structure and arrangement precisely as disclosed, my invention being defined by my appended claims
 40 within the scope of which changes in structure and in arrangement may be made without departure from my invention.

Having described my invention, what I claim and desire to secure by Letters-Patent,
 45 is:—

1. A refuse burner comprising a combustion chamber, an ash pit below said chamber, a grate arranged intermediate of the combustion chamber and the ash pit, a cold air
 50 compartment in communication with the upper portion of the rear end of the combustion chamber and provided with means whereby its lower portion is in communication
 55 with the atmosphere, and an uptake extending upwardly from the upper portion of the said cold air compartment; the rear end of the combustion chamber being formed by a wall having an inclined face and extending
 60 upwardly to the point of connection between the combustion chamber and the cold air compartment.

2. A refuse burner comprising a combustion chamber, an ash pit below said chamber,
 65 a grate arranged intermediate of the com-

bustion chamber and the ash chamber, means for supplying refuse to the upper portion of the interior of the combustion chamber, spaces formed in the side walls of the combustion chamber and open at their upper
 70 ends to the atmosphere and having their lower ends in full and free direct communication with the ash pit, a cooled compartment in communication with the upper portion of the rear end of the combustion chamber and
 75 provided with means whereby its lower portion is in communication with the atmosphere, and an uptake extending upwardly from the upper portion of the said compartment.

3. A refuse burner comprising a combustion chamber, an ash pit below said chamber, a grate arranged intermediate of the combustion chamber and the ash chamber, means for supplying refuse to the upper portion
 80 of the interior of the combustion chamber, spaces formed in the side walls of the combustion chamber and open at their upper ends to the atmosphere and having their lower ends in full and free direct communication
 85 with the ash pit, a cooled compartment in communication with the upper portion of the rear end of the combustion chamber and provided with means whereby its lower portion is in communication with the atmosphere, and an uptake extending upwardly
 90 from the upper portion of the said compartment; the rear end of the combustion chamber being formed by a wall having an inclined face and extending upwardly to the point of connection between the combustion chamber and the cooled compartment.

4. A refuse burner comprising a combustion chamber, means for supplying refuse to the upper portion of the interior of said
 95 chamber, an ash pit below the combustion chamber, a grate between the combustion chamber and the ash pit, air spaces arranged upright at the opposite sides of the combustion chamber and open at their upper
 100 ends to the atmosphere and in communication at their lower ends with the ash pit, a cooled compartment in communication with the upper portion of the rear end of the combustion chamber and having means
 105 whereby its lower portion is in communication with the atmosphere, and an uptake extending upwardly from the upper portion of the said cooled compartment.

5. A refuse burner comprising a combustion chamber, means for supplying refuse to the upper portion of the interior of said
 110 chamber, an ash pit below the combustion chamber, a grate between the combustion chamber and the ash pit, air spaces arranged upright at the opposite sides of the combustion chamber and open at their upper
 115 ends to the atmosphere and in communication at their lower ends with the ash pit, a cooled compartment in communication with
 120
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the upper portion of the rear end of the combustion chamber and having means whereby its lower portion is in communication with the atmosphere, and an uptake extending
5 upwardly from the upper portion of the said cooled compartment; the rear end of the combustion chamber being formed by a wall with an inclined face that extends upwardly to the point of communication between the combustion chamber and the cooled com- 10
partment.

In testimony whereof I affix my signature.

JOSEPH P. LAMBERT.