

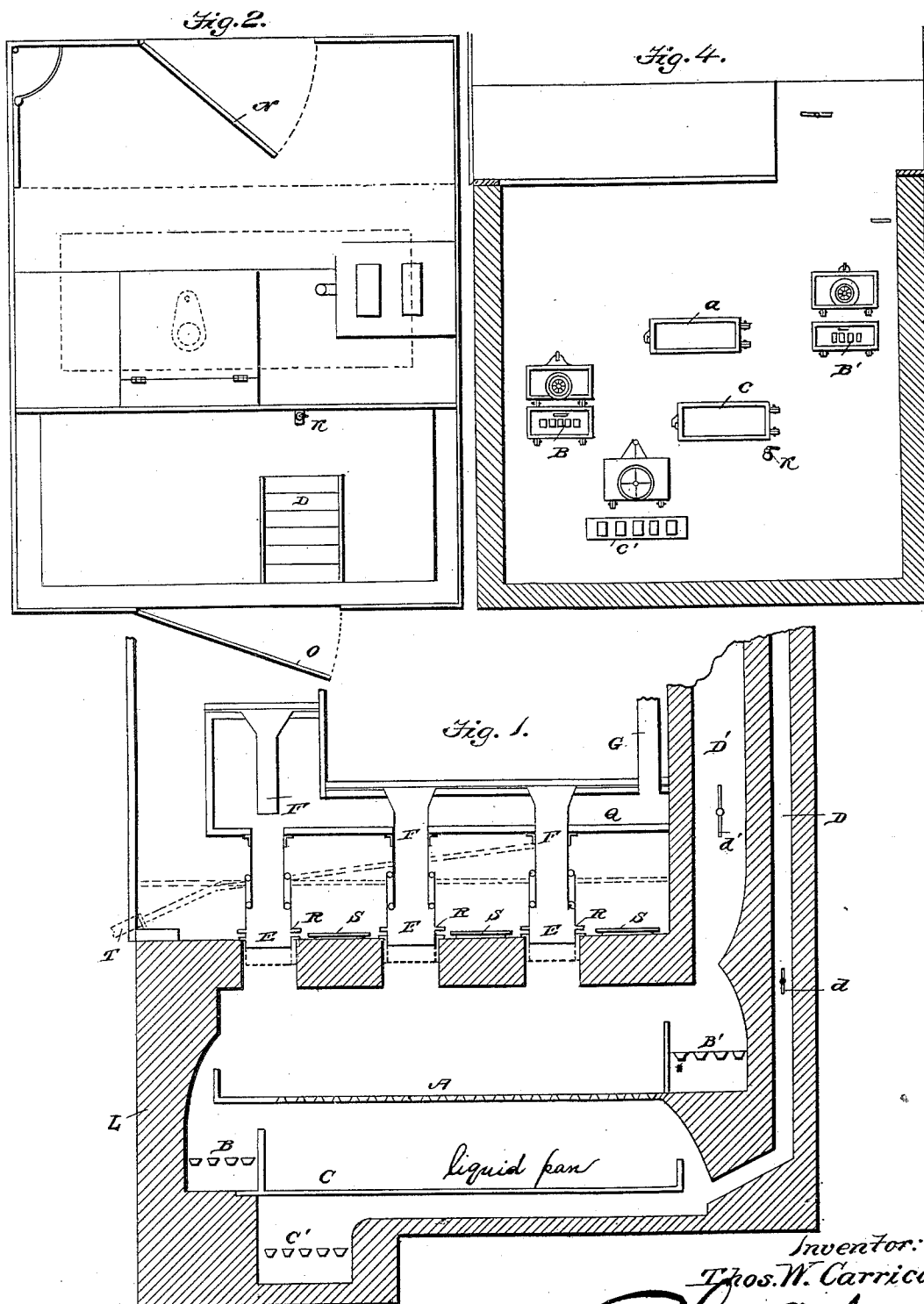
(No Model.)

3 Sheets—Sheet 1.

T. W. CARRICO.
ODORLESS DRY OUTHOUSE AND REFUSE BURNER.

No. 462,891.

Patented Nov. 10, 1891.



Witnesses:

W. F. Palmer
W. F. Palmer

Inventor:

Thos. W. Carrico

By *Chas. E. Barber*
Attorney.

(No Model.)

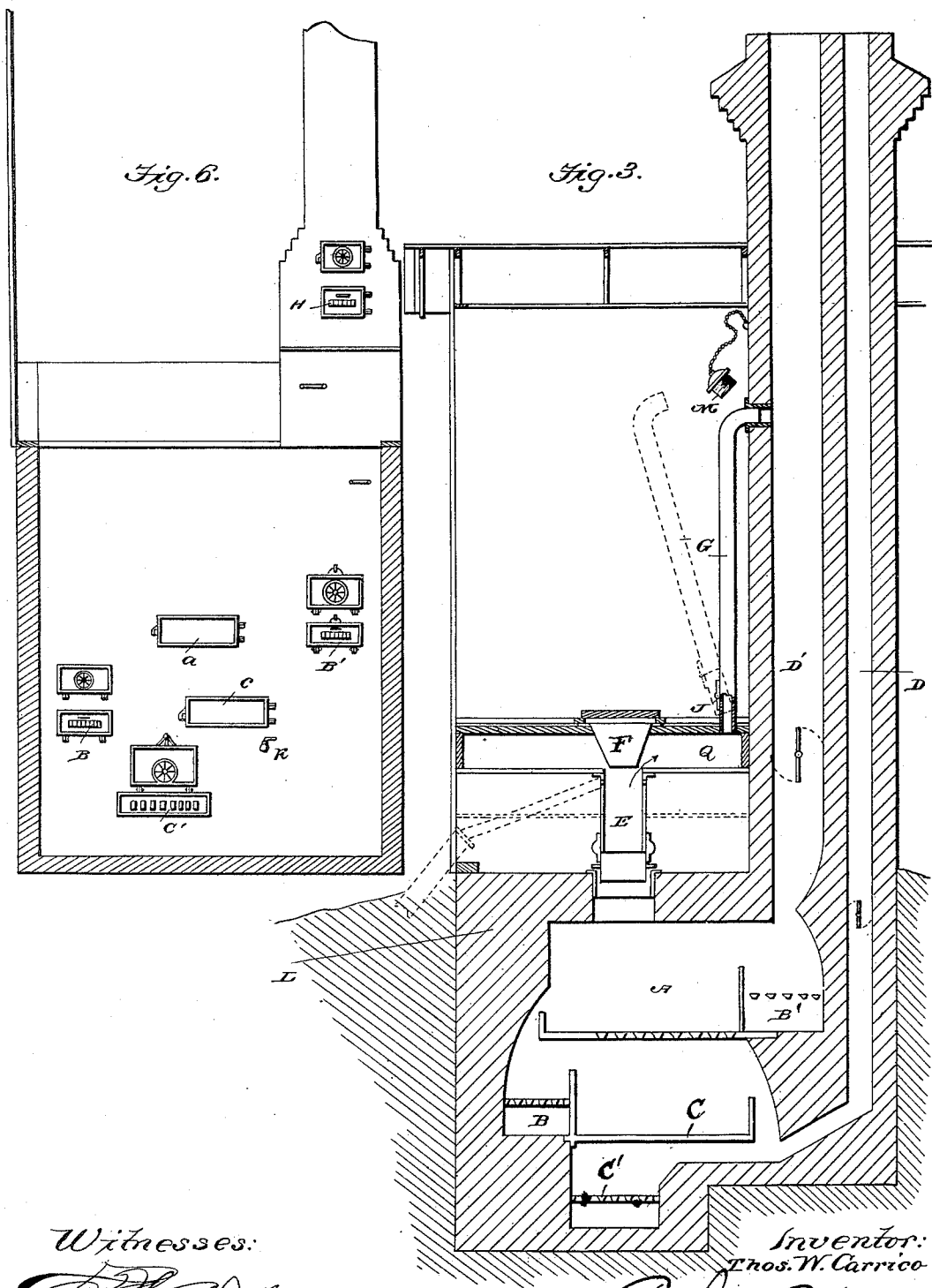
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No. 462,891.

Patented Nov. 10, 1891.



Witnesses:

W. H. Schieff
W. F. Palmer

Inventor:

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(No Model.)

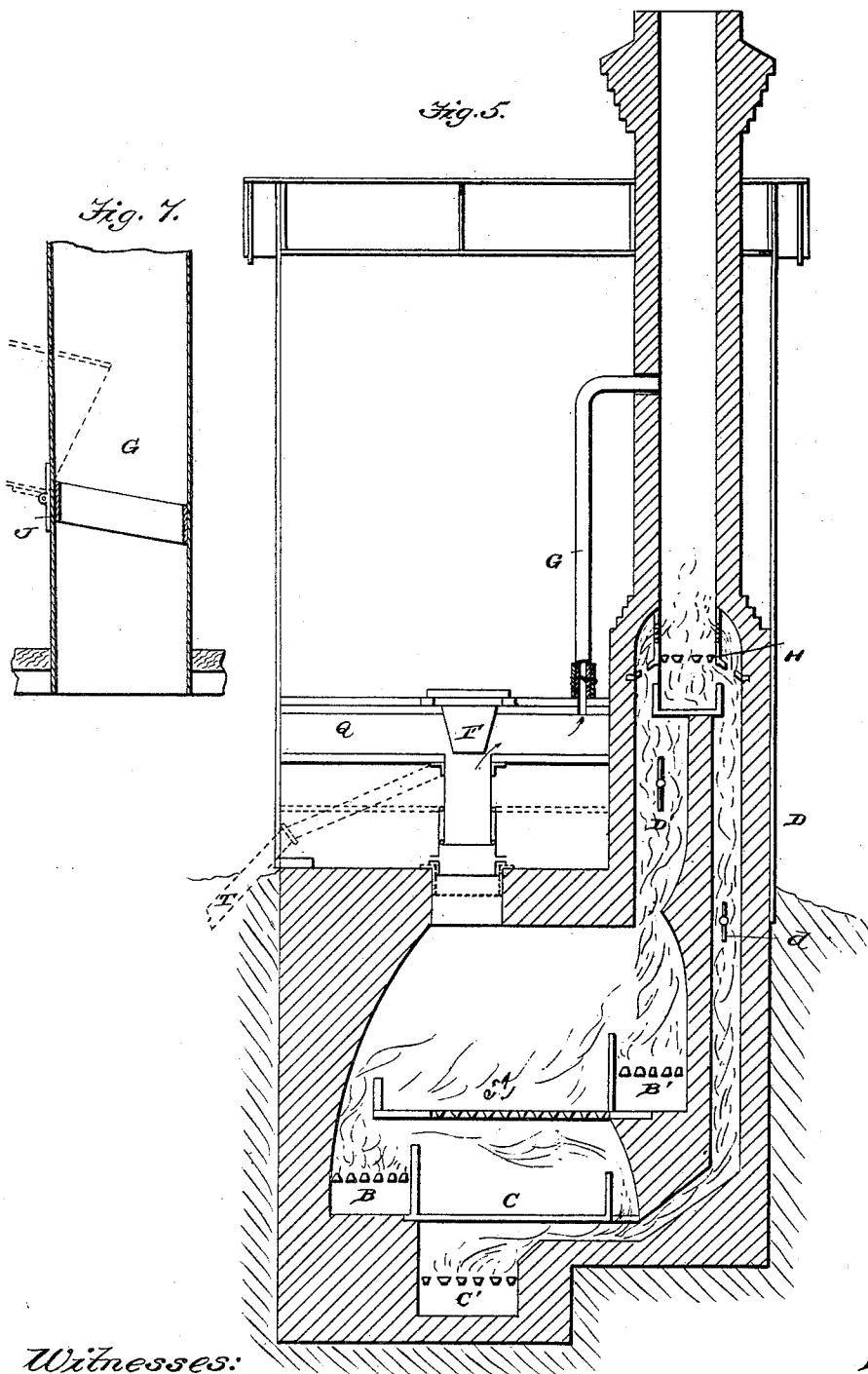
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ODORLESS DRY OUTHOUSE AND REFUSE BURNER.

No. 462,891.

Patented Nov. 10, 1891.



Witnesses:

W. F. Palmer
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Inventor:

Thos. W. Carrico

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UNITED STATES PATENT OFFICE.

THOMAS W. CARRICO, OF SAN ANTONIO, TEXAS, ASSIGNOR OF ONE-THIRD TO
FRANCIS A. CARRICO AND THOMAS W. CARRICO, JR., OF SAME PLACE.

ODORLESS DRY OUTHUSE AND REFUSE-BURNER.

SPECIFICATION forming part of Letters Patent No. 462,891, dated November 10, 1891.

Application filed June 23, 1890. Serial No. 356,327. (No model.)

To all whom it may concern:

Be it known that I, THOMAS W. CARRICO, a citizen of the United States, residing at San Antonio, county of Bexar and State of Texas, have invented certain new and useful Improvements in Odorless Dry Outhouses and Refuse-Burners or Crematories Therefor, of which the following is so full, clear, and exact a description as will enable others skilled in the art to which my invention appertains to make and use the same.

Reference is had to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of my improved device, showing double closet and one slop-hopper. Fig. 2 is a plan view in horizontal section of the double closet, taken on a plan through the air-duct. Fig. 3 is a vertical longitudinal section of a single closet. Fig. 4 represents the interior of the base, with the doors and the draft-slides on the inside of the base. Fig. 5 is a vertical longitudinal sectional view with the auxiliary furnace or reburner located in the flue or chimney. Fig. 6 is a view similar to Fig. 4, showing the smoke-flue and elevated grate. Fig. 7 is an enlarged sectional detail of the air-duct.

The object of my invention is to produce a combined dry odorless outhouse and a crematory or refuse-burner in the cellar or vault of the same, by the use of which night-soil or garbage may be reduced to ashes in the shortest possible time and at a comparatively trivial expense.

Another object of my invention is to produce a device by the use of which all kinds of offensive and pest-breeding matter may be destroyed and consumed without the production of lasting and injurious noxious gases and vapors.

It is well understood that the populations of certain cities and towns suffer great hardships and disadvantages, and are frequently visited by epidemics which are superinduced or aggravated, or both, by the pernicious odors and vapors which permeate the atmosphere and which are the direct result of imperfect drainage and the consequent accumulation of night-soil, garbage, and all sorts of putrid deposits of animal or vegetable mat-

ter, or both. The inhabitants of such localities have had recourse to various plans and methods for the destruction of the causes of the calamitous results and conditions above alluded to; but the evils complained of still continue to exist. If the refuse matter of a city be carted to the suburbs, the handling of the refuse matter subjects the handlers to discomfort and disease. Traces of the presence of the disease-breeding matter are readily detectable near the regions from which the débris is removed by reason of the hurtful odors which arise from the fragmentary deposits of the infectious matter, which must necessarily taint all objects with which it comes in contact. Again, after the refuse matter has been deposited at some part remote from the resident portion of the city, a strong wind blowing toward the city will necessarily convey to the inhabitants the disagreeable odors with which it is laden, strewing its path with the germs of disease, pestilence, and death. The most successful solution of this perplexing problem is to be found in the destruction of the damaging causes by fire. This should be accomplished with the greatest frequency practicable and with the least disturbance and agitation of the refuse matter to be consumed.

It is well understood that the disagreeable odor emitted by a mass of putrid vegetable or animal matter is proportionately greater or less as the matter is stirred or agitated or allowed to remain at rest. My invention is therefore admirably adapted to accomplish the desired result—namely, the consumption, cremation, and entire destruction of the injurious and disagreeable elements and properties of the refuse matter—at its first point of accumulation and permanent deposit without agitation and without permeating the surrounding atmosphere with its odors, germs, and vapors.

My invention comprehends the construction of a structure replete with appointments to secure perfect ventilation and the deposit of liquids and solids upon platforms designed for their special accommodation and retention in such a manner that the liquids will either be automatically separated during the process of deposit, or the liquids will be

drained from the solids after the deposit has been made. The separation of liquids from solids of this character in this connection is a great desideratum, as it is well understood that decomposition and the generation of noxious gases are greatly augmented by the application of liquids to solids, excepting of course the application of acids for the purposes of neutralization and conversion, and the application of water where it is to be had in sufficient quantities to permit of the process of flushing.

In my device, as illustrated by the accompanying drawings, the main structure L is provided with a main garbage-grate A, at either side of which is located a supplemental grate, as B or B', the former being located below the plane of the main grate, while the latter is shown slightly above it. Between the supplemental grates B and B' and below their planes is located a liquid-receiving pan C, and below this liquid-receiving pan C is located a base-grate C', which is below the plane of the entrance to the smoke-flue D and at the opposite side of the structure. The evaporating-pan C or receptacle for liquids is provided with an indicator overflow-pipe *k*, extending from the said pan through the wall, and provided at its outer end with a stop-cock or shut-off for closing said pipe when the fires are started in said furnace. The object of this overflow-pipe is to prevent the lower fire from ever being drowned out by the liquids from above or the lower part of the furnace from getting foul or soiled, as would be the case were not this or some similar outlet provided. Whenever the liquids in the pan rise to a sufficient height to percolate through said pipe, it is notice to you that it is time to light your fire and consume the contents of said deposits in the aforesaid furnace.

The smoke-flue D is provided with a damper *d*, and is formed in one side of the chimney whose walls also inclose a second smoke-flue D', having a damper *d'*. Each of the grates except grate A is provided with a door and a draft-slide, while the pan and the main grate are provided with ports having doors *a* and *c*, respectively, for the purpose of cleaning out the furnace when required.

Above the region of the main grate are passage-ways E E, which are designed to be used, in connection with suitable hoppers and stools or seats for the outhouse, at the points of deposit of night-soil. It is also obvious that the same passage-ways may serve as conductors for garbage and any refuse matter which it is necessary or desirable to destroy.

The hoppers F F are arranged at the top of the passage-ways E E, the lower ends of the hoppers being smaller than the diameter of the passage-ways E E to prevent the night-soil from coming into contact with the sides of the passage-ways, the result of which would be to smear and clog them up and prevent all of the particles of odoriferous matter from dropping to and upon the grates de-

signed for their reception and accommodation.

The structure is provided with an air-duct G, which is connected with the flue D' at the top and with the upper region of the passage-ways E E, as shown in Figs. 3 and 5. The air taking the course indicated by the arrows passes out between the upper end of the passage-ways E E and the lower end of the hoppers F F, thence into the duct G, and out through the flue D'.

Located between and within and across the flues D and D' is an elevated grate H, which communicates with both of the flues D D'. This grate serves the double purpose of a means of creating a violent draft in the furnace or burner to insure the vapors and gases taking the proper direction, and it serves as a means of providing a reburner, which insures the complete and perfect combustion of any noxious vapors or gases which may be generated by the combustion of the debris in the lower furnace. This reburner should be provided with a fine quality of coarse charcoal, and the fire should be started at this point a sufficient time before the fires are started below to allow the grate and fuel to become thoroughly heated before the gases from the combustion of the refuse matter begin to rise from the burning mass in the lower furnace. The air-ducts or passage-ways are all closed or cut off before the fires are started, and the escaping vapors or gases will therefore have no exit except through the reburner H and into and through the flues D D'. Hence the imperative necessity of thoroughly heating the reburner before the lower fires are made in order to secure the perfect combustion of all noxious gases and foul odors before they escape into the outer air.

The main structure of my outhouse and furnace below the ground is preferably made of masonry, the arches being preferably lined with fire-bricks laid in fire-clay. The structure may be made any size desired, there being absolutely no limit in this respect. This applies as well to the size and shape of the openings in the top of the arch. The said openings may be made large enough to take in any waste matter. Large hotels and other places of public resort may have one or more of these establishments of sufficient size and dimensions to accommodate the requirements and circumstances.

Public squares, preferably in the suburbs of the town, may be provided with the structures to great advantage, and here the populace may come and dump garbage and other refuse matter, which may be burned in behalf of the city and under the supervision of the city's officers.

Each of the hoppers F F of the outhouse is provided with the automatic separating apparatus heretofore patented to me.

The openings *a* and *c* above the grate A and pan C respectively facilitate the raking of the grate and pan for cleansing purposes.

In front of each fire-place grate and slightly below is a perforated door having correspondingly-perforated register plates or covers for the purpose of regulating the draft.

5 The air-duct G is provided with a hinge J for swinging the air-pipe when the upper end of the air-duct may be removed from the chimney, and the caps M inserted into the upper opening of the chimney and fastened
10 in any suitable manner.

The evaporating-pan is located beneath the grates B B', and all vapors arising from them must pass through one or more of the furnace-fires before reaching the open air.

15 The main door to the main entrance to the house is designated by the letter N.

The cellar-door is lettered O.

The stairway leading from the vault beneath the rear portion of the building is lettered P.
20

The air-chamber which surrounds the upper portion of the structure beneath the seat-board is lettered Q.

25 The telescoping sections of the soil-pipes are lettered R R.

The sliding plates which cover the openings for the soil-pipes are lettered S S.

30 The liquid conductor or pipe T leads to a receptacle of any suitable size or construction; but it is not shown in the drawings.

The operation of my device is as follows: Coke or other suitable dry fuel is first placed on the lower furnace-grates, and charcoal or any other suitable fuel is placed on the re-burner in the chimney. The fire is started
35 and allowed to burn until the grate and fuel are entirely heated in the reburner in the chimney, after which time the fires in the lower furnaces are started and the process of combustion allowed to go on. From the nature of the case and by reason of the special provision of appliances to secure the greatest cleanliness, it will be apparent that no deposits of refuse will smear or clog the soil-
40 pipes, since the passages of the refuse matter from the hoppers to the grates are absolutely uninterrupted. Again, the ventilation of an outhouse constructed as shown will be as perfect as it is possible to make it. The air-
45 chamber below the seat-board and around the soil-pipes and mouths of the hoppers close to the seat-board will prevent the escape of foul air from the soil-pipes through the hoppers into the house, as a strong draft will always
50 be created and kept up within the air-chamber by reason of its connection with the upper part of the chimney through the medium of the air-duct.

It will of course be understood that the
60 telescoping sections of the soil-pipes will be elevated and the openings into the furnace closed by the plates S S, and the air-duct be disconnected from the chimney before the fires are started in the structure.

65 By the proper manipulation of the various dampers and draft appliances, and by the exercise of judgment in starting the various

lower fires, the flames may be conducted either above or below the garbage-grates, or both, according to the requirements of the refuse
70 matter to be consumed.

I do not wish to be understood as limiting myself to the exact construction shown, as many of the details may be varied at will without departing from the general principles
75 of my invention.

Having described the objects, uses, and advantages of my invention, what I desire to secure by Letters Patent, and what I therefore claim, is—
80

1. The main furnace, in combination with an arch or cover of masonry provided with a soil-pipe opening and a soil-pipe provided with a movable section and plate for closing the opening in the arch, a suitable grate and
85 fire-place in the lower portion of the furnace, and the smoke-flue, substantially as described.

2. A furnace provided with a main grate, and an evaporating-pan, and suitable fire-grates located above and below the main
90 grate, the evaporating-pan provided with an overflow-pipe, in combination with the soil-pipes and the two independent smoke-flues leading from the grates, substantially as described.
95

3. In an odorless dry outhouse of the character described, the combination of the main furnace and fire-grate and refuse receptacle or grate, with two independent smoke-flues, each of which has an independent damper,
100 and a reburner located within the smoke-flues and between and across the two at the point where the flues emerge, substantially as described.

4. In a refuse-burner of the character described, the combination of the main structure, with suitable openings in the top and cover for said openings, the garbage-grate A, the fire-place B, the liquid-receptacle C, the fire-place C', the flue D, the damper d in said
110 flue, the flue D', and the damper d' in said flue, all constructed and operated for receiving and consuming night-soil and garbage, substantially as described.

5. In a refuse-burner of the character described, the combination of the main structure L, provided with suitable receiving-openings in the tops, the garbage platform and grate A, located in the furnace, with the fire-place above and below said grate, the
120 liquid-receiving pan, with overflow-pipe from said pan through the wall, with fire-places located above and below said pan, the double-draft flue provided with damper, with the reburner fire-place located in the draft-flue, all
125 combined and operated substantially as described.

6. In a refuse-burner of the character described, the combination of the main furnace provided with suitable openings in the top,
130 with cover for closing said openings, with garbage-grates located between fire-place in the furnace, and with an evaporating-pan located between fire-place in the furnace, with

overflow-pipe for said pan, with fire-place
above and below the garbage platform and
grates, also with fire-place located below and
above the liquid-receptacle or evaporating-
5 pan, with a double-draft flue with entrance
to one near the bottom of the furnace, the en-
trance to the other near the top of the fur-
nace, with damper-valves for opening and
closing the flues and regulating the course of
10 the flames through the furnace, and with the
fire-place in the chimney at the termination of

the double flues at a point above the furnace
for consuming the noxious gases and vapors
that escape the fires in the furnace below,
substantially as described, and for the pur- 15
pose set forth.

In testimony whereof I affix my signature in
the presence of two witnesses.

THOMAS W. CARRICO.

Witnesses:

WM. S. TEMPLE,
DAISÉ D. ESTES.