

(No Model.)

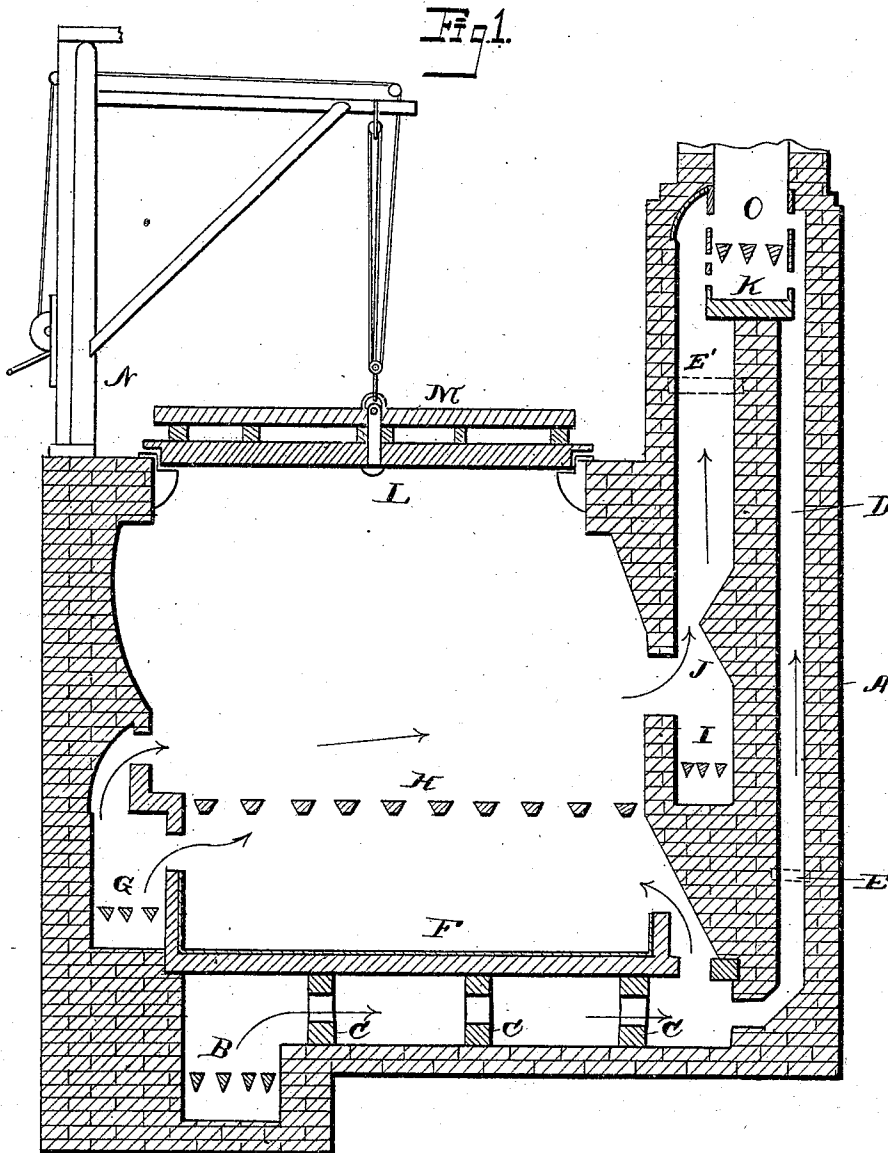
2 Sheets—Sheet 1.

T. W. CARRICO.

APPARATUS FOR TREATING REFUSE MATTER.

No. 503,073.

Patented Aug. 8, 1893.



Witnesses
J. M. Fowler Jr.
W. A. Falconer.

Thomas W. Carrico
Inventor

By Chas. E. Barber
att'y.

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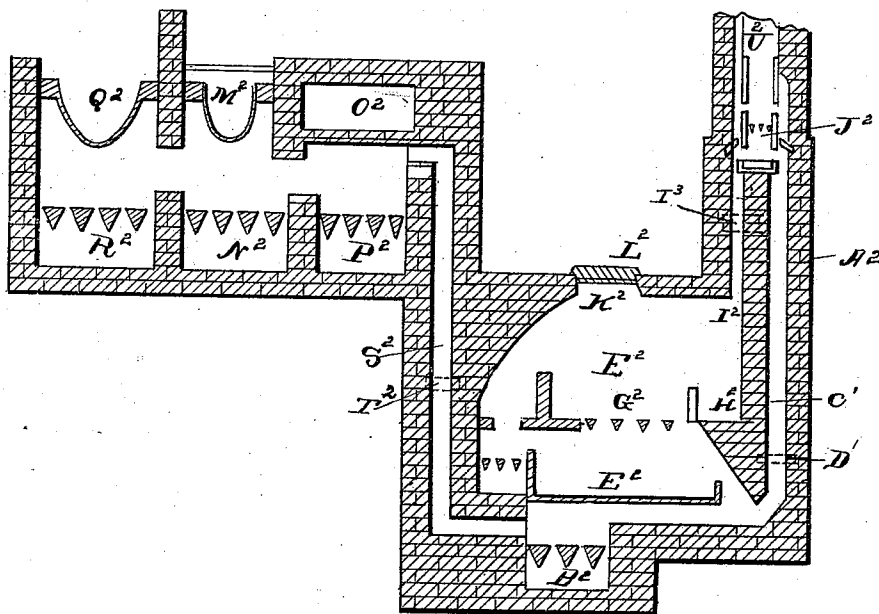
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Fig. 2.



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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.

APPARATUS FOR TREATING REFUSE MATTER.

SPECIFICATION forming part of Letters Patent No. 503,073, dated August 8, 1893.

Application filed December 13, 1890. Serial No. 374,620. (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, in the county of Bexar and State of Texas, have invented certain new and useful Improvements in Apparatus for Treating Refuse Matter, 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 being had to the accompanying drawings, in which—

Figure 1 is a vertical section of a large size refuse burner, constructed in accordance with my invention. Fig. 2 is a section of a burner for use in private families, hotels, &c., but on a somewhat smaller scale than the device shown in Fig. 1; and with certain additional appliances, to be hereinafter explained.

The object of my invention is the perfection of an apparatus 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.

In Fig. 1 I show a large size refuse burner suitable for public or general use, or for large establishments, and in this figure A represents the main walls or outside casing of the burner, said walls being preferably made of fire brick laid up in fire clay mortar, or lined with fire brick laid up in fire clay mortar. B represents the lower or base fire place located near the bottom of the refuse burner. C represents the dwarf walls supporting the liquid receptacle—said dwarf walls being perforated with suitable openings to admit a free passage of the flames from the fire; D, the rear or back flue opening out from the lower part of the burner; E, the sliding valve or damper for opening or closing the flue D and for regulating the course the flame shall take through the burner; F, a liquid receptacle—it can be made of fire clay tiling with a metal pan set inside; G, the center fire place located to one side of the liquid receptacle; H, the main garbage grating arranged across the burner for the support of garbage or refuse matter to be burned; I, the upper fire place in the body of the refuse burner at one side

of the garbage grating; J, the upper or front flue leading to the reburner K. E' is a cut off valve or damper in the main flue J; K, the reburner fire place located in the chimney above the refuse burner and across the flues D and J; said fire place being so constructed that the entire products of combustion from the refuse burner below are drawn into and passed through the flames of this fire before reaching the open air above; L, the opening in the top of the refuse burner—made large enough to freely allow for the dumping in through said opening the body of a dead horse, or cow, or the dumping in through said opening the contents of a loaded cart containing any kind of refuse without any further handling; M, the door or cover for closing the opening in the top of the refuse burner. This door is preferably made of metal with metal ribs projecting upward for supporting a wood framework or floor, there being an air space between the wood and iron covers to prevent the upper cover from burning the feet of animals that have occasion to pass over it; N, the crane rigged with block and tackle and supplied with a crab for raising and lowering or swinging said cover around out of the way; O, the smoke flue above the fire place.

I claim to desiccate the night soil or other deposits, in the body of my refuse burner by passing products of combustion underneath said deposits; after passing the products of combustion under the deposits I force the foul air through my fire in the chimney before it reaches the open air.

In the form shown in Fig. 2, I show a refuse burner for a private family and with an oven and kettle furnace attachments. Let A² designate the outer wall or casing of the refuse burner, and B² the base fire place which communicates with the rear flue C' which is provided with a damper D' for opening and closing the said flue C'. E² designates the receptacle. F² designates the middle fire place of the refuse burner. G² designates the main or garbage grate for supporting the solid garbage; H², the upper fire place in the refuse burner; I², the front upper flue. I² is a cut-off valve

or damper in the flue I². J² designates the reburner fire place located in the chimney across the flues C' and I². K² designates the opening in the top of the refuse burner. L² designates the cover for closing the opening in the top of the burner. M² designates a kettle for boiling clothes. N² designates the fire place under the wash kettle. O² designates the oven for heating iron. P² designates the fire place under the oven. Q² designates the pot for boiling animal feed, or rendering lard, or making soap. R² designates the fireplace under the kettle Q². S² designates the smoke flue leading down into the base or bottom of the refuse burner. T² designates the cut off damper in the flue S². U² designates the smoke flue above the fire place J².

The operation of the form of burner shown in Fig. 1 is as follows:—First close the receiving opening I in the top of the refuse burner with the cover M by the use of the crane and attachments N. Then start a fire in the fire place K located in the chimney across the flues D and J above the top of the refuse burner; then, after getting the chimney hot at that point—hot enough to create a violent draft through the refuse burner—then start a fire in each of the other fire places. Then, if it is desirable to burn the refuse from the top downward, I open the back flue D by drawing out the cut off valve E and closing the front flue J by shoving in the cut off valve E' thereby causing all the products of combustion to pass through one or more fires in the body of the refuse burner before entering the flue D. They are then carried by the flue D into and through my re-burner fire K located in the chimney across the flues D and J. This fire is especially adapted to consume all the noxious gases that may pass the fires below,—or in other words, any noxious gases escaping the fires below will be consumed by this fire.

To reverse the operation, and burn the refuse matter from the bottom up toward the top, I open the flue J by drawing out the cut off valve E' and closing the flue D by pushing in the cut off valve or damper E, thereby causing all the products of combustion to pass through one or more fires in the body of the refuse burner before reaching the flue J. They then pass up the flue J up and into and through my reburner fire K located in the chimney across the top of the flues D and J. This fire K is especially adapted to prevent the possibility of any noxious gases escaping out into the open air above.

The operation of the form of device shown in Fig. 2 is as follows:—Close the flue C' with the damper D', start a small fire in the fire place J² so as to create a draft, then open the flue C' by drawing out the damper D', then open the flue S² by drawing out the damper T². I then start my fire under the kettles or oven, just as the case may be, or in other words, I start all or any of the fires I may want to use. The products of combustion

from these fires will pass down the flue S² into and along the bottom of the refuse burner to the flue C'. It will be seen by this passage of products of combustion through the lower regions of the refuse burner it will draw off large quantities of moisture and dampness from the body of the refuse burner above thereby desiccating the deposits in the body of the refuse burner above; said matter being dried up by the passage of warm air through the lower regions of the burner. It carries the cold air from the regions above out through the flue C' into the fire J² before reaching the open air. It will thus be seen that this process will desiccate by the passage of products of combustion under the deposits; if the fires under the kettles or oven are frequently used the deposits in the refuse burner will be nearly or completely dried up.

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

1. A furnace for treating refuse matter, having a main furnace and grate for the refuse to be treated; a supplemental furnace communicating with the main furnace both above and below the grate of the latter, and a furnace located in the flue of the main furnace, the arrangement being such that the vapors and gases arising from the refuse matter under treatment will pass through said furnace, substantially as shown and described.

2. In an apparatus for treating refuse matter the combination of a main furnace for the reception of the refuse; a supplemental furnace communicating with said main furnace through openings both above and below the grate of the latter; a furnace below the main furnace connected with a separate flue and also with the flue of the main furnace by a passage into the latter; and a furnace located in the main flue, the arrangement being such that the vapors and gases arising from the matter under treatment will pass through the last named furnace, substantially as shown and described.

3. In an apparatus for treating refuse matter the combination of a main furnace and grate for the reception of the matter to be treated; a supplemental furnace at one side of the main furnace and communicating therewith through openings both above and below the grate thereof; a furnace below the main furnace having a separate flue leading into the flue of the main furnace and also connected with the latter by a separate passage; a furnace in the lower part of the flue of the main furnace, and a furnace above the latter at the junction of the branch flues, the arrangement being such that all the vapors and gases arising from the matter under treatment will pass through the last named furnace to be re-burned and purified, substantially as shown described.

4. In an apparatus for treating refuse mat-

ter the combination of a main furnace and grate, for the reception of the refuse, having a flue opening at one side, a supplemental furnace at the side opposite the flue opening
5 communicating with the main furnace both above and below the grate of the latter flue and a furnace in the main flue, substantially as shown and described.

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

THOMAS W. CARRICO.

Witnesses:

ROBT. A. PATRICK,
H. M. AUBREY.