

No. 654,606.

Patented July 31, 1900.

B. COBURN.
SANITARY RETORT.

(Application filed Feb. 20, 1900.)

(No Model.)

2 Sheets—Sheet 1.

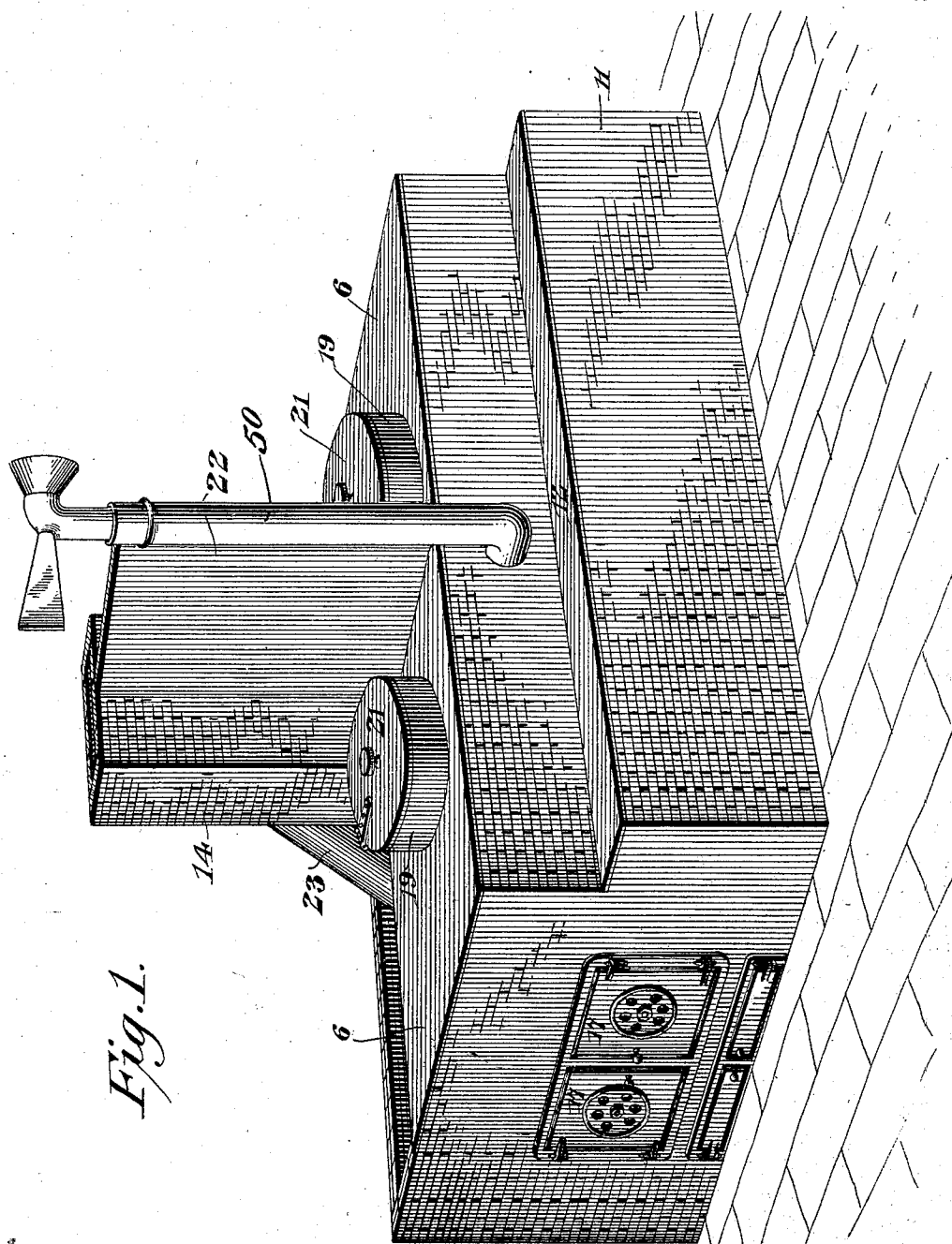


Fig. 1.

Witnesses

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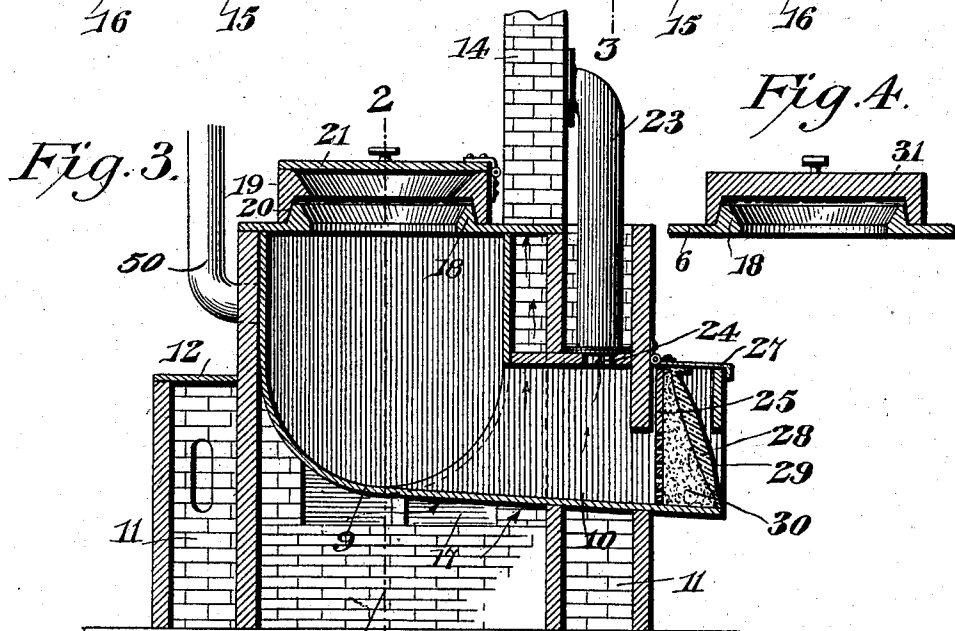
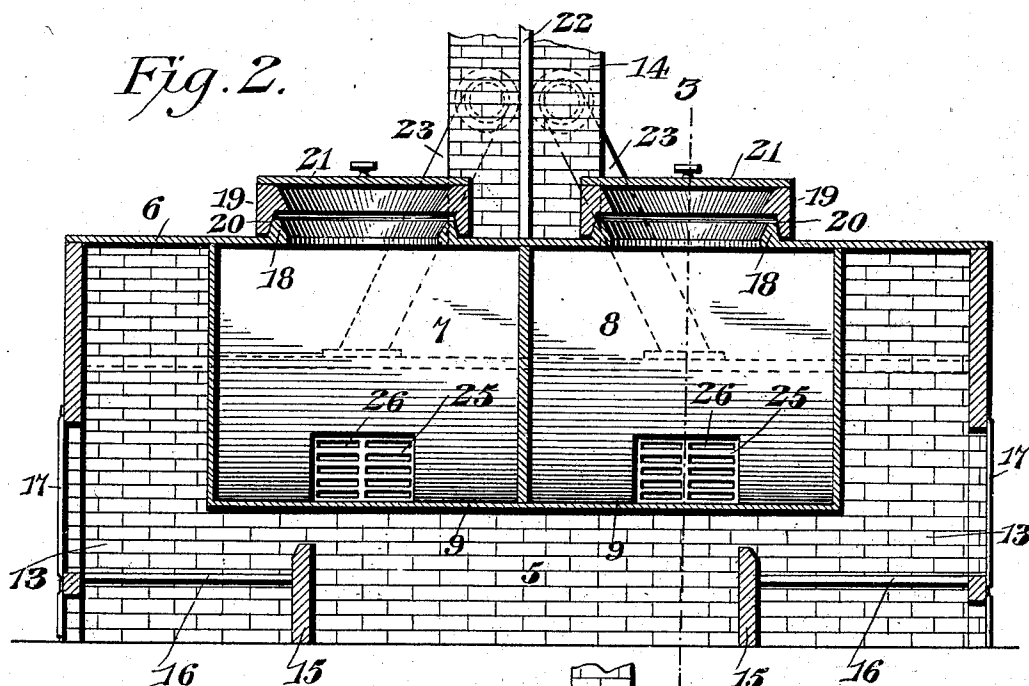
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UNITED STATES PATENT OFFICE.

BYRON COBURN, OF LE ROY, NEW YORK.

SANITARY RETORT.

SPECIFICATION forming part of Letters Patent No. 654,606, dated July 31, 1900.

Application filed February 20, 1900. Serial No. 5,934. (No model.)

To all whom it may concern:

Be it known that I, BYRON COBURN, a citizen of the United States, residing at Le Roy, in the county of Genesee and State of New York, have invented a new and useful Sanitary Retort, of which the following is a specification.

My invention relates to a sanitary retort for dwellings, school-houses, and other buildings; and the objects in view are, first, to provide means for desiccating the solid matter to a dry ash-like condition; second, to drain the liquid matter and retain the sediment in a layer of filtering material for evaporation, and, third, to ventilate the offal-hopper by way of the chimney which establishes the draft for the furnace.

With these ends in view the invention consists in the novel construction, arrangement, and combination of parts which will be hereinafter fully described and claimed.

In the drawings, Figure 1 is a perspective view of a sanitary retort embodying my invention. Fig. 2 is a longitudinal sectional elevation on the plane indicated by the dotted line 2 2 of Fig. 3. Fig. 3 is a vertical transverse sectional elevation on the plane indicated by the dotted line 3 3 of Fig. 2. Fig. 4 is a detail fragmentary view illustrating an imperforate metallic cover adapted to be employed on one of the stool-flanges when the furnace is employed for desiccating the contents of the hopper.

The same numerals of reference are used to indicate like and corresponding parts in each of the several figures of the drawings.

My improved sanitary appliance includes a vault 5, the walls of which may be of brick or masonry constructed as illustrated by the drawings, or this vault may be built of metal or any other suitable material. The top plate 6 of the vault is, essentially, of metal or other material which will resist the action of the heat generated by the furnace. In the embodiment of the invention represented by the drawings the sanitary retort is equipped with a series of offal-hoppers 7 8, also of metal; but it is to be understood that the number of hoppers is not material, because they may be increased or decreased within the capacity of the dwelling or building. The hoppers are arranged side by side within the vault, each

hopper having a curved bottom 9. Drainage-spouts 10 are connected to or made integral with the hoppers for communication with the lower under sides thereof, and each drainage-spout is inclined from the hopper to and through the rear wall of the vault, whereby the protruding rear end of each spout is made to serve the purpose of a filter and evaporator for the liquid contents of the hopper, as will presently appear. The vault 5 is constructed with longitudinal air-chambers 11, which are situated at the front and rear of the vault and on opposite sides of the furnace-chamber which contains the hoppers. The front air-chamber 11 is closed at its upper side by a plate 12, which provides a convenient foot-rest.

The vault is constructed with an inclosed furnace-chamber 13 at one or both ends thereof; but in a retort of large capacity I prefer to employ furnace-chambers at opposite ends of the vault, as shown by Fig. 2. A chimney 14 has communication with the vault-chamber at the middle thereof and at the rear side of the plate 6, said chimney being common to both of the furnaces, so that the heat and products of combustion will circulate beneath the hoppers and around the drainage-spouts as they pass from the furnace-chambers to the chimney. The bridge-walls 15 are parallel with the furnace-fronts in order to support the grates 16, and fuel may be placed on these grates by introducing the same through the fuel-doors 17, said doors having the draft-regulating dampers, as shown by Fig. 1.

The metallic top plate 6 of the vault is provided above each hopper with a stool-flange 18, which may be integral with said plate or it may be fastened in any secure manner thereto. The stool-flange may extend upwardly from the plate for any desired distance; but, as shown by the drawings, it occupies a compact relation thereto. Said flange 18 is tapered or inclined to enable a seat 19 to be fitted snugly thereto. This seat is provided with a depending beveled flange 20, that is arranged to circumscribe the flange 18 and to fit closely thereto for the purpose of securely holding the seat 19 in place by a wedging engagement with said flange 18. It is thus apparent that the seat is held firmly in place by a wedging engagement with the

flange, which permits the seat to be readily removed for replacement by a metallic imperforate cover 31 of the character represented by Fig. 4 previous to desiccating the contents of the hoppers. Each seat is or may be provided with a hinged cover 21, and the space between the seats of the series is divided by one or more partitions 22.

The hoppers are ventilated by the employment of ventilating-flues 23, which are shown by Fig. 2 as arranged in diverging positions from the chimney to the hoppers. Each ventilating-flue has its upper end connected in any suitable way with the chimney; but I prefer to couple the lower end of each flue with the drainage-spout of one hopper, so as to establish communication between the parts by an aperture or opening 24, the latter being formed in the upper side of the drain-spout.

It will be noted that the drain-spout of each hopper is extended through the rear wall of the vault, and said drainage-spout is inclined downwardly from the hopper to facilitate the drainage of the liquid contents therefrom. Within each drainage-spout is arranged a partition 25, the same being held or confined in place by any suitable means. Said partition is provided with slots or openings 26, which permit the liquid matter to freely pass through the partition while retaining the solid matter within the hopper or the drainage-spout. The upper side of this spout has a hinged top 27 and within the spout is arranged an inclined sun glass or pane 28. The sun-glass is so disposed that the sun's rays may pass through it to heat the filtering material without permitting escape of the gases, as shown. This glass or pane is arranged within the open rear end of the spout and in such relation to the apertured partition as to form therebetween a filtering-chamber 29, said chamber adapted to be filled or charged with a stratum or layer of filtering material 30, such as sand, coal-ashes, or other absorbent material. The liquid matter from the retort is free to pass through the apertures or slots in the partition and to be filtered by the filtering stratum or layer within the spout. The sun-glass is exposed at the rear end of the spout to the action of the sun's rays, and the saturated filtering stratum within this spout is subjected to the action of heat, so as to permit the liquid to be partly evaporated. The sanitary retort should of course be arranged for the open ends of the drainage-spouts to be exposed to the action of the sun. In cold weather it may become desirable to occasionally start a fire in the furnace to prevent the liquid contents of the retort from freezing.

To assist in the evaporation of the liquid, an air-supply pipe 50 is connected with the hoppers and supplies air thereto, the upper end of the pipe having a funnel shape and provided with a vane to maintain the funnel in a position to catch the breeze.

Having thus described the invention, what I claim is—

1. A sanitary retort comprising a vault having a furnace and a chimney leading therefrom, a hopper situated within the vault for exposure to the heat and products of combustion of the furnace, a ventilating-flue connecting said hopper with the chimney, a spout leading from the hopper and having a strainer adjacent to its outlet, an absorptive filter in the spout beyond the strainer, and a sun-glass disposed to concentrate the sun's rays upon the filtering material, substantially as described.

2. A sanitary retort comprising a vault, a hopper in the vault and having a drainage-spout inclined from the hopper and extended through the vault to expose one end thereof, a filtering stratum within the exposed portion of the spout, a sun-glass disposed to concentrate the sun's rays upon the filtering stratum, and a vent-flue leading from the spout adjacent the filtering stratum to convey the fumes therefrom.

3. A sanitary retort comprising a vault, a hopper therein, a drainage-spout inclined from the hopper and extended through the vault, a partition fitted within the open end of said spout, and a pane or sun-glass also fitted within the spout and arranged relative to the partition to form therebetween an intermediate filtering-chamber, substantially as described.

4. A sanitary retort comprising a vault having its top provided with a stool-flange, a furnace within said vault, a closed hopper within the vault contiguous to the furnace, a flanged seat fitted removably to the stool-flange, a chimney leading from the vault and communicating through the latter with the furnace-chamber, a spout for the hopper inclined therefrom, a sun-glass disposed to concentrate the sun's rays to the end of the spout, and a ventilating-flue connected with the spout adjacent the outer end thereof and with the chimney, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

BYRON COBURN.

Witnesses:

FRED. S. COBURN,
C. STROBET.