Sept. 1, 1925. 1,552,236

T. A. SALA

HEATER

Filed March 3, 1924 2 Sheets-Sheet 1

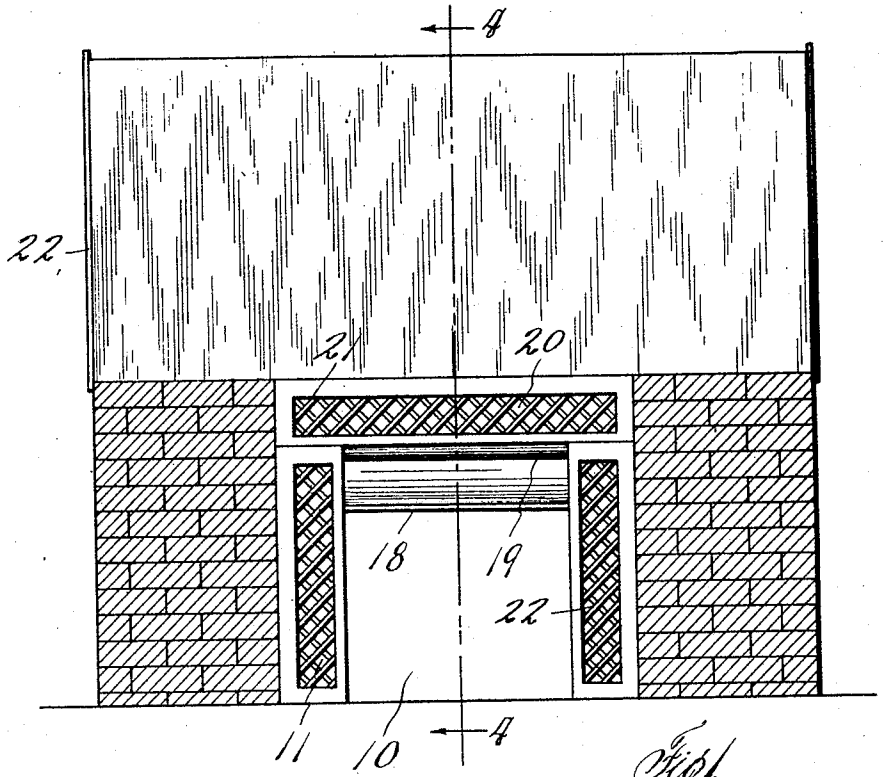


Fig. 1.

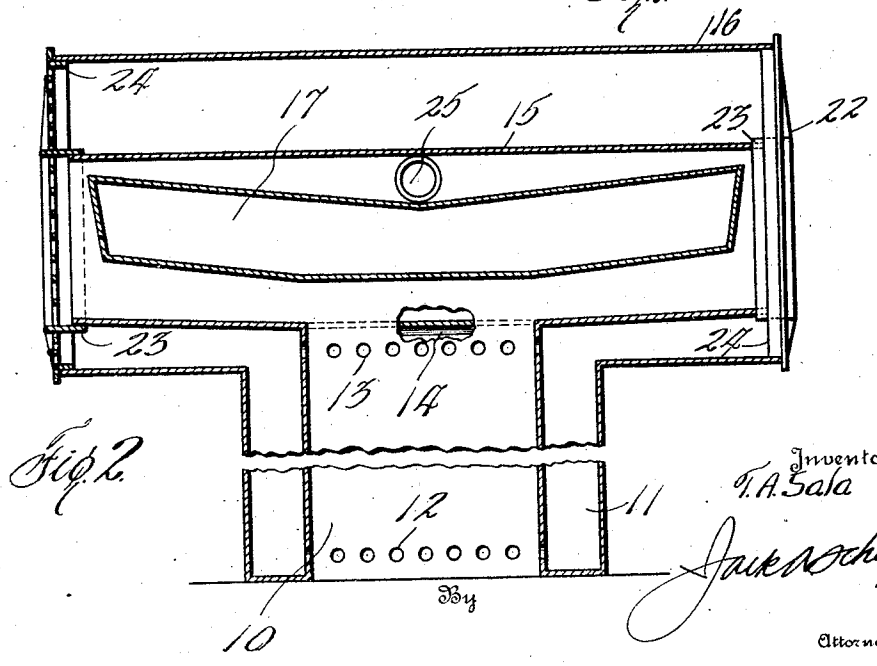


Fig. 2.

Inventor
T. A. Sala

By Jack Ochley

Attorney

Sept. 1, 1925. 1,552,236

T. A. SALA

HEATER

Filed March 3, 1924 2 Sheets-Sheet 2

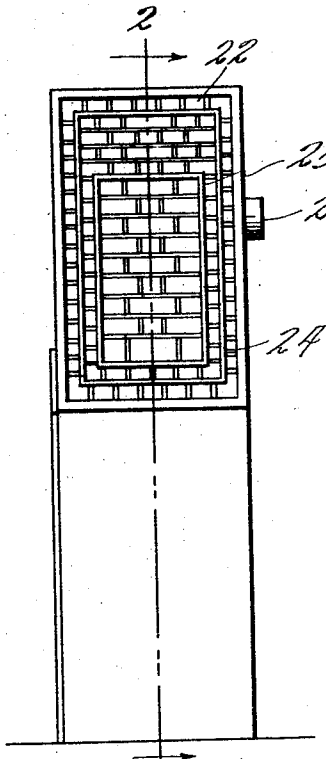


Fig. 3.

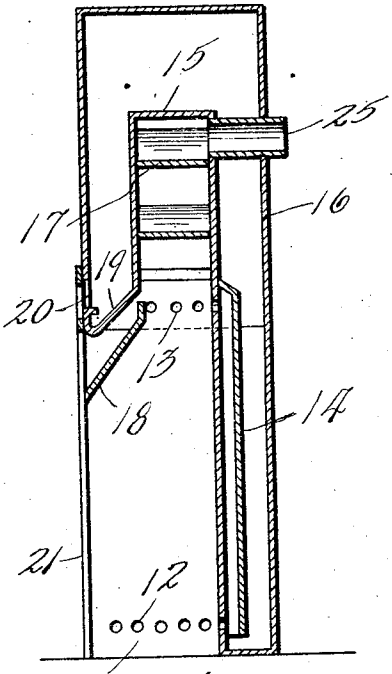


Fig. 4.

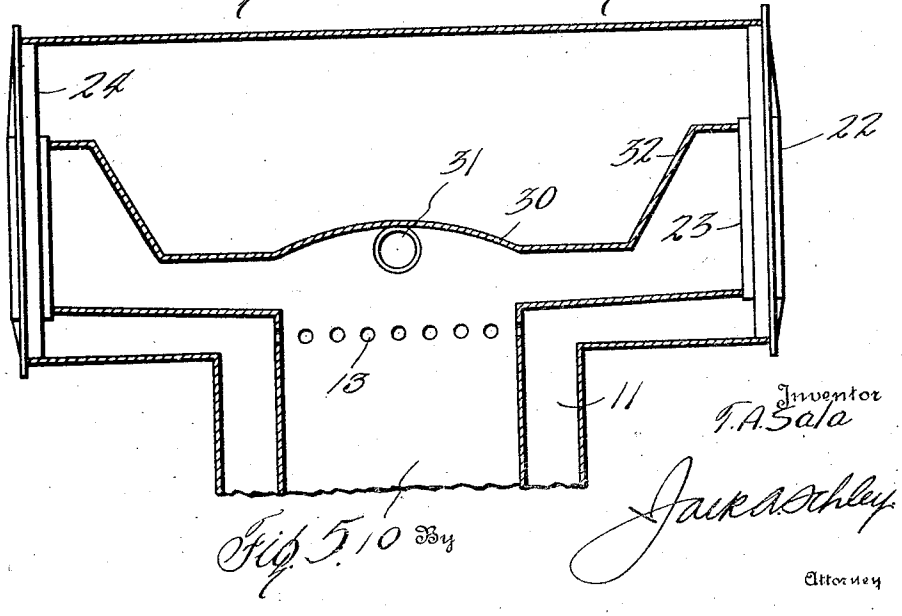


Fig. 5.

Inventor
T. A. Sala
By Jake A. Ashley
Attorney

Patented Sept. 1, 1925. 1,552,236

UNITED STATES PATENT OFFICE.

THEODORE A. SALA, OF DALLAS, TEXAS.

HEATER.

Application filed March 3, 1924. Serial No. 696,657.

To all whom it may concern:

Be it known that I, THEODORE A. SALA, citizen of the United States of America, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Heaters, of which the following is a specification.

This invention relates to new and useful improvements in heaters.

The object of the invention is to provide certain improvements in the device set forth in my Letters Patent issued May 27, 1924, No. 1,495,262, and June 10, 1924, No. 1,497,123.

One of the objects is to utilize to better advantage the side outlets and to simplify the heater.

A further object is to provide means for cooling the back wall of the fireplace.

Another object is to provide means for increasing the circulation of the air currents, whereby the heating capacity is enlarged.

A construction designed to carry out the invention will be hereinafter described together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, in which an example of the invention is shown, and wherein;

Fig. 1 is a front elevation of a heater constructed in accordance with my invention,

Fig. 2 is a longitudinal vertical sectional view of the same,

Fig. 3 is an end elevation,

Fig. 4 is a transverse vertical sectional view taken on the line 2—2 of Fig. 3, and

Fig. 5 is a partial longitudinal vertical sectional view of a modified form.

In the drawings the numeral 10 designates a fireplace. The fire chamber is surrounded on each side and on its back, by a flue 11. In the side and back walls of the fireplace are perforations 12 near the bottom, while similar perforations 13 are provided in said walls near their upper ends. A shallow flue 14 is attached to the rear wall of the fireplace above the perforations 13, and terminates just below the perforations 12 in the said back wall. This auxiliary flue provides for a circulation of air currents upwardly, which acts to dissipate the heat and prevents overheating of the back walls of the fireplace and the flue 11.

A transverse flue 15 intersects with the fireplace and extends from end to end of a transverse drum 16 from which its four sides are spaced. The drum has its rear wall formed from a continuation of the rear wall of the flue 11. Within the flue 15 is a dead-air chamber 17 extending longitudinally of the flue 15 and having its ends adjacent the ends of said transverse flue. The chamber 17 extends from the front to the rear side of the flue 15 and has its end portions slightly inclined upwardly and terminating short of the ends of the flue 15. Thus the air currents rising in fireplace escape into the flue 15 and must pass under and along the chamber 17 to escape from the ends of the flue 15.

A deflector plate 18 extending across the upper end of the fireplace, is inclined upwardly to the bottom of the flue 15. Above the plate 18 is a baffle plate 19 extending from the upper edge of the fireplace to the flue 15. The plates 18 and 19 form an air duct for the admission of air direct from the room into the flue 15. Above the plate 19 is a transverse opening 20 in the front wall of the drum 16. The front of the flue 11 and the opening 20 are covered by an arched grille 21, which admits cold air.

Side grilles 22 having concentric flanges 23 spaced inwardly from their edges are also provided with marginal flanges 24. The flanges 23 and 24 are on the inner sides of the grilles and the flanges 23 fit within the ends of the flue 15, while the flanges 24 fit in the ends of the drum 16.

It will be seen that the heater may be installed in a chimney breast or a pilaster may be built in a room which does not have a chimney breast. When the heater is installed only the grille 21 and the fireplace 10 will be exposed on the front while at the sides only the grilles 22 will be presented. A suitable gas, wood, coal or other fire may be provided in the fireplace 10, the gas only being usable where there is no chimney flue.

The air from the room is drawn through the grille 21 into the flue 11 and the drum 16 through the opening 20. A portion of the air currents passes through the perforations 12 and 13 into the fireplace and also up the auxiliary flue 14 at the back. Air of course enters the front of the fire box as well as through the duct above the plate 18. The air entering the fireplace passes upward into the bottom of the flue 15 as does the air entering through the duct. This promotes

circulation and the heated air currents or gases impinging the under side of the dead air chamber 17 are spread to each side and are thus carried to the ends, adjacent the grilles 22. This heated air is discharged through the grilles 22, into the room at the sides of the heater. A vent 25 leads from the upper central portion of the flue 15 above the chamber 17, through drum 16 to a suitable chimney flue. By this arrangement most of the gases and fumes passing around the ends of the chamber 17 will be carried off through the vent 25, unless the same is closed in which event the discharge will be through the grilles 22.

The air which enters the flue 11 through the grille 21 will be warmed by indirect heat from the fire. The heated air currents from the chamber 11 pass up into the drum 16. The air which enters the drum through the opening 20 passes over the upper front of the fireplace and is more or less warmed. The heated air currents pass from the drum through the grilles 22, after being heated by contact with the flue 15.

In Fig. 5 I have shown a modified form in which the dead air chamber is omitted. The fireplace 10 intersects with the bottom of a transverse flue 30 having a vent 31. The ends of the flue are flared at 32 to fit in the flanges 23 of the grilles 22. This form is preferable in some instances.

Various changes in the size and shape of the different parts, as well as modifications and alterations may be made within the scope of the appended claims.

What I claim, is:

1. In a heating device, a fireplace, an air admitting flue contiguous to the sides and back of the fireplace, a transverse drum above the air flue and connected therewith, the drum having an air admitting opening at its front and bottom just over the open front of the fireplace, a grille covering the said drum opening and also the front of the air admitting flue, a transverse flue extending within the drum and spaced therefrom and connected with the fireplace, grilles at the ends of the drum having flanges secured thereto, the ends of the transverse flue extending to and connected with said grilles, and a duct extending from the upper portion of the open front of the fireplace to the bottom of the transverse flue at the center thereof for admitting air thereto.

2. In a heating device, a fireplace, an air admitting flue contiguous to the fireplace, a transverse drum above the air flue and connected therewith, a transverse air flue extending from end to end of the drum and connected with the fireplace, grilles at the ends of the drum and transverse air flue, and a duct for admitting air over the upper portion of the fireplace directly into the transverse air flue.

3. In a heating device, a fireplace, an air admitting flue contiguous to the fireplace, a transverse drum above the air flue and connected therewith, a transverse air flue extending from end to end of the drum and connected with the fireplace, grilles at the ends of the drum and transverse air flue, means for admitting air directly into a drum at a point above the fireplace opening, and a duct for admitting air over the upper portion of the fireplace directly into the transverse air flue.

4. In a heating device, a fireplace, an air admitting flue surrounding the sides and back of the fireplace, a grille covering the front of the air admitting flue, a transverse drum above the chamber and flue, the fireplace having openings in its walls communicating with the air flue, and a transverse flue within the drum and connected with the top of the fireplace.

5. In a heating device, a fireplace, an air admitting flue surrounding the sides and back of the fireplace, a grille covering the front of the air admitting flue, a transverse drum above the fireplace and flue, the fireplace having openings in its walls communicating with the air flue, an auxiliary air flue in the vertical air flue connecting the openings on the back wall of the fireplace, and a transverse flue within the drum and connected with the top of the fireplace.

In testimony whereof I affix my signature.

THEODORE A. SALA.