June 10, 1924. 1,497,123

T. A. SALA

FIREPLACE HEATER

Filed March 19, 1923 3 Sheets-Sheet 1

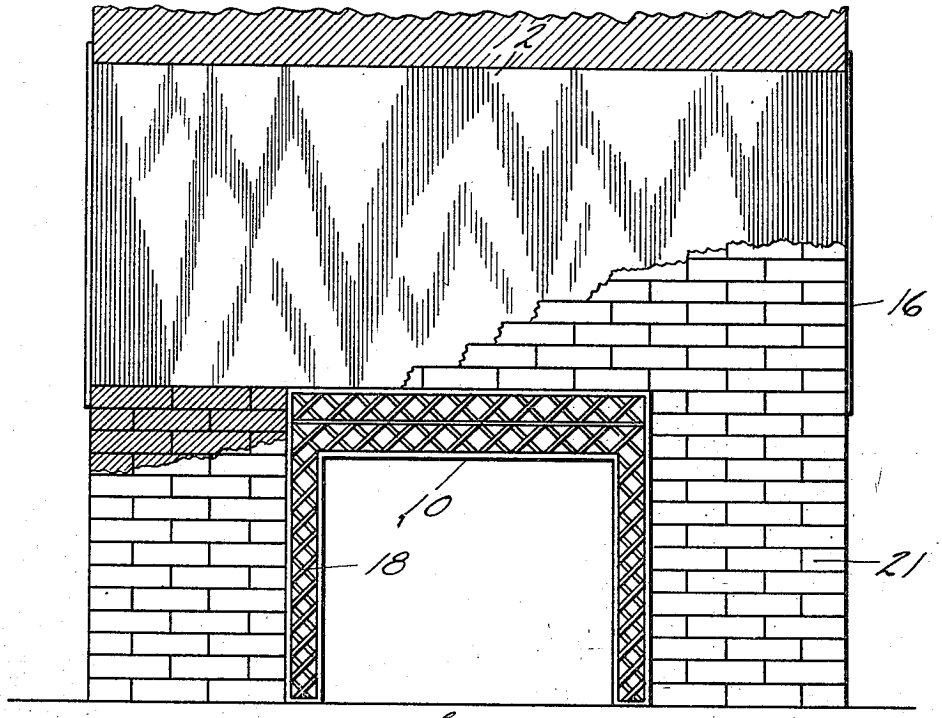

Fig. 1.

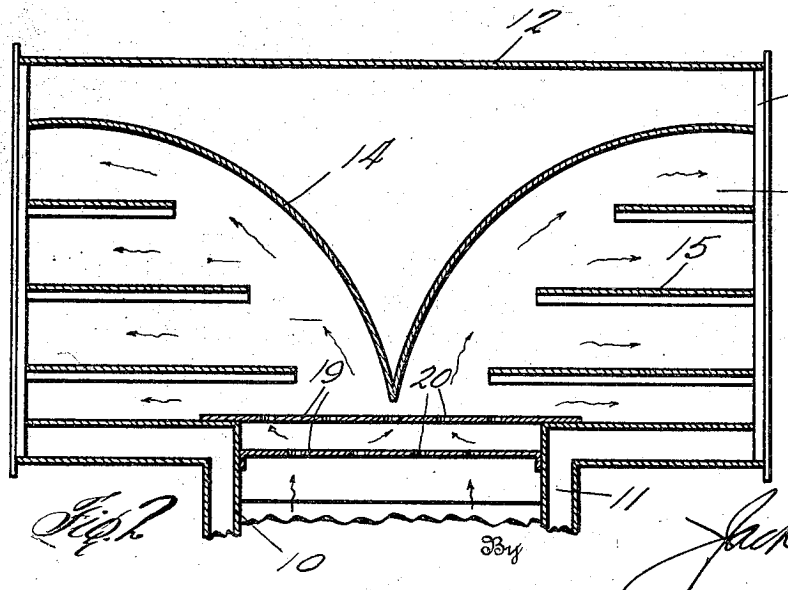

Fig. 2.

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FIREPLACE HEATER

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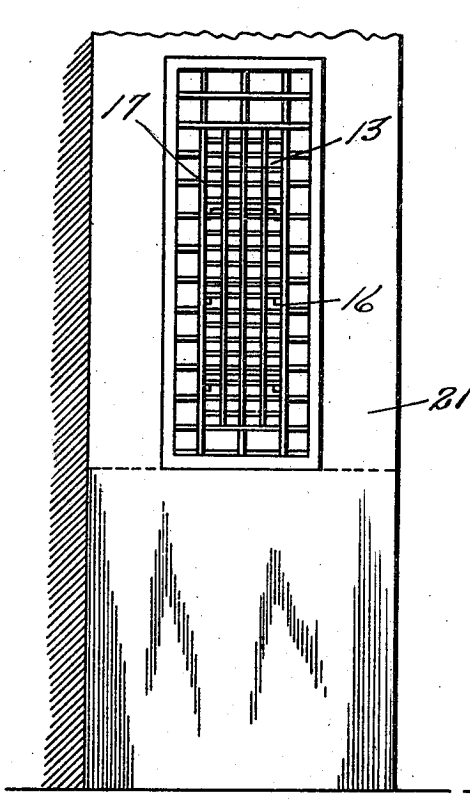

Fig. 3.

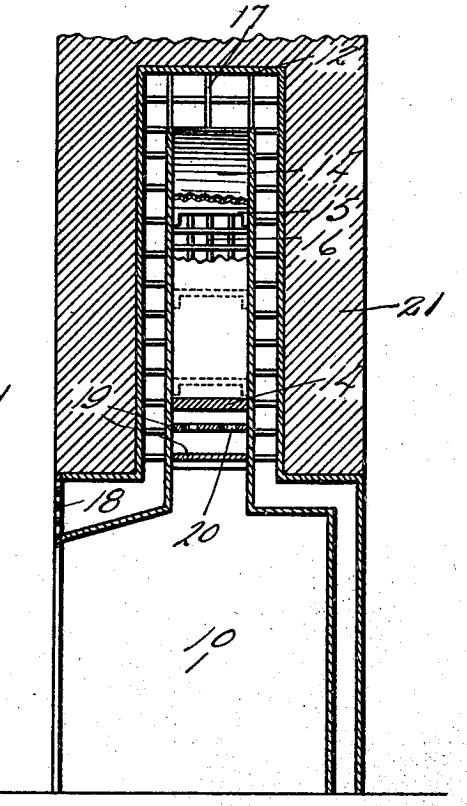

Fig. 4.

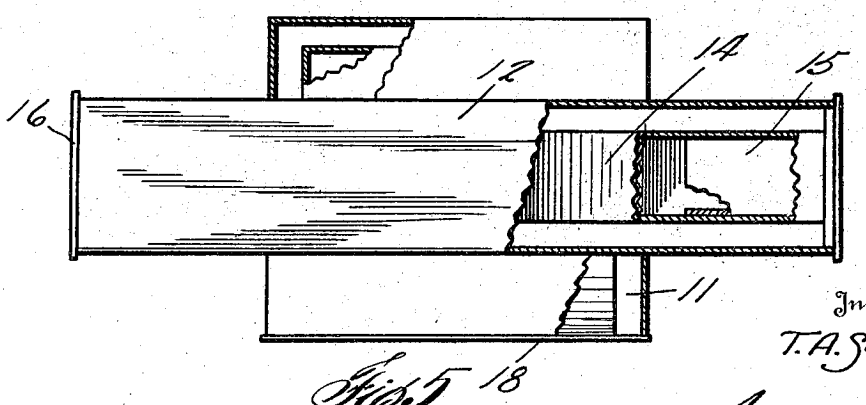

Fig. 5.

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FIREPLACE HEATER

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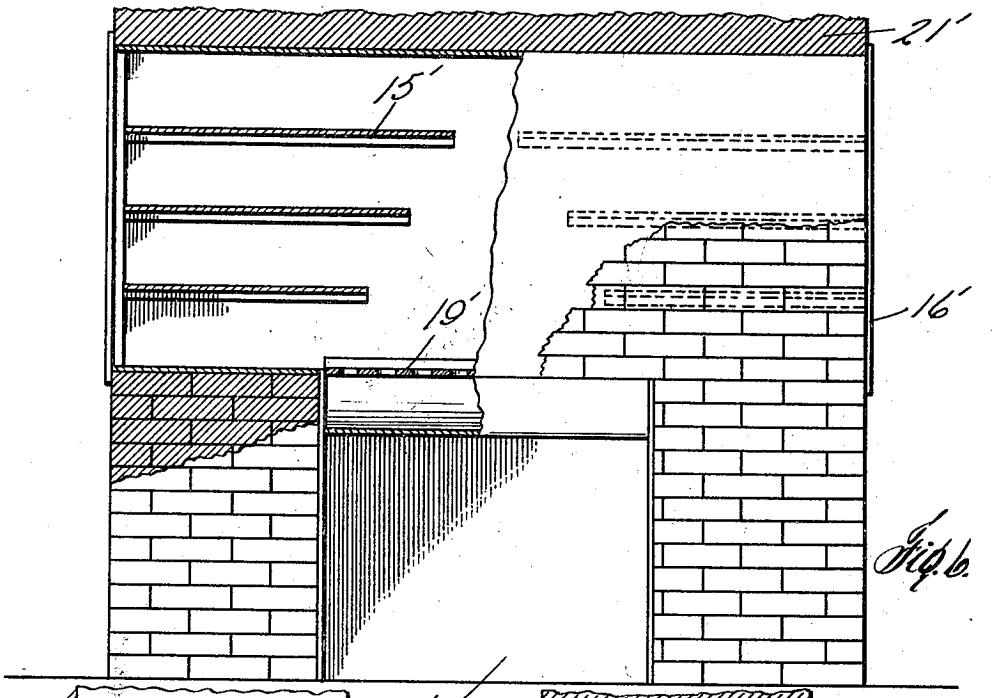

Fig. 6.

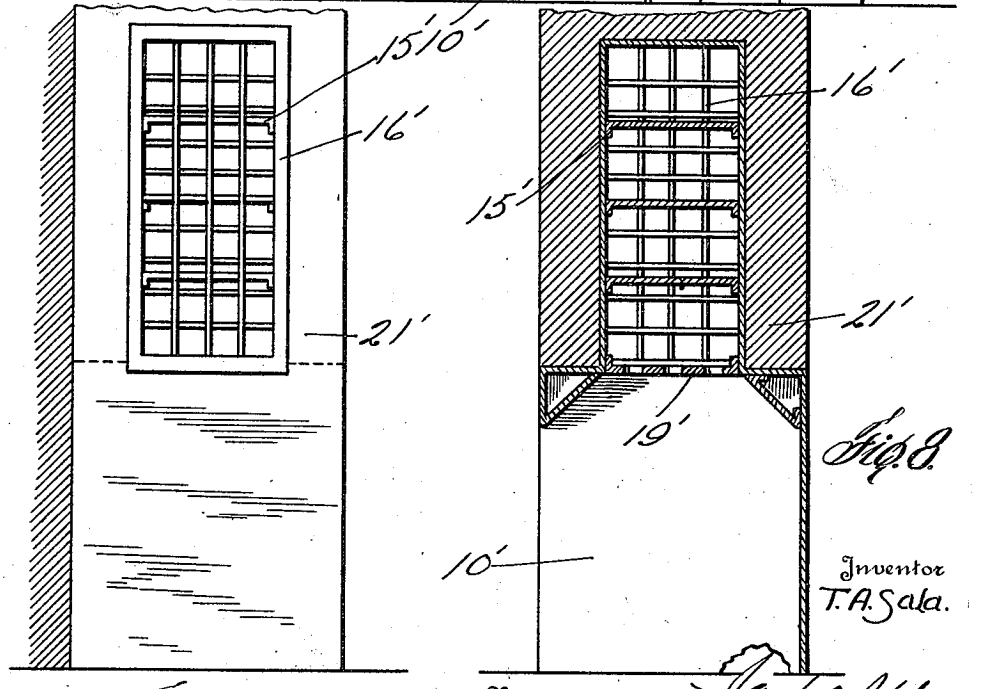

Fig. 7. Fig. 8.

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Patented June 10, 1924. 1,497,123

UNITED STATES PATENT OFFICE.

THEODORE A. SALA, OF DALLAS, TEXAS.

FIREPLACE HEATER.

Application filed March 19, 1923. Serial No. 625,969.

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 Fireplace Heaters, of which the following is a specification.

This invention relates to new and useful improvements in heating devices.

The object of the invention is to provide a heater which may be used in conjunction with a fire place and a mantel.

A particular object of the invention is to provide a heater which may be built into a mantel or around which a mantel may be built and an attractive fire place produced.

A further object of the invention is to provide a heater of the character described whereby heat units from a central fire place may be delivered on each side of the mantel structure, together with such air as passes through the fire place and is warmed.

Another object of the invention is to provide a heater in which the heat units are diverted to each side and delivered into the room, together with air flues for admitting and conducting air contiguous to the passage of the heat units without contact therewith, whereby the air is warmed and so discharged into the room; such a method enhancing the circulation and promoting a more even temperature.

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 device constructed in accordance with my invention, a portion of the mantel being in section,

Fig. 2 is a vertical sectional view of the upper portion of the heater,

Fig. 3 is a side elevation of the device, the mantel being in section,

Fig. 4 is a transverse vertical sectional view,

Fig. 5 is a plan view.

Fig. 6 is a modified form, a portion being illustrated in section,

Fig. 7 is an end elevation, and

Fig. 8 is a transverse vertical sectional view.

In the drawings the numeral 10 designates a fire box having an open front and which may be formed of sheet metal or which may be cast. The side and back walls of this box may be lined with a suitable fire resisting material if desired. The box is surrounded on each side and on the back by a vertical air flue 11.

A transverse drum 12 is mounted on the fire box and is rectangular in cross-section, having its greatest dimension vertically. The drum communicates with the air flue. Within the drum and spaced from its side walls are a pair of diverging heat conducting flues 13, each having an upward curved top wall 14. These top walls have their lower inner ends meeting at the center of the drum over the center of the fire box. Within the air flues are arranged transverse spaced partitions 15 having their inner ends terminating in stepped order so as to be spaced at substantially equal distances from the top walls 14. The spacing and stepping of these partitions may be varied to suit the conditions.

At the outer end of each side of the drum is arranged a vertical grille 16, each having a frame 17 registering with the end of the heat flues 13 contiguous thereto. It will be seen that the heat units rising from the fire box pass directly into the flues 13 without entering the drum. A grille 18 surrounds the front of the fire box and covers the front of the air flue 11 so as to present an ornamental appearance.

A suitable gas fire maintained by a heater of the Bunsen burner type, such as will not give off objectionable fumes, is operated in the fire box. But other kinds of burners and heaters may be used in the fire box. In order to retard and deflect the heat units I arrange a pair of spaced deflector plates 19 transversely at the upper end of the fire box. These plates have perforations 20, those of one plate being in staggered relation to those of the other plates.

It is the aim of this invention to install

this heating device in a chimney breast or mantel 21 and to have the grilles 16 on the sides of the mantel structure. An advantage is that no chimney is required and therefore a very attractive and ornamental fire place and mantel may be built in a room without a chimney. Further the heated air is delivered on each side of the mantel and a better distribution is had.

The heat units from the fire box will pass up through the perforations 20 and into each of the flues 13.

The partitions 15 will divert the units and distribute the same to the grilles 16 from which they will pass into the room. Air entering the grille 18 will be received into flue 11 and thus warmed without coming into contact with the heater or promoting a draft therearound. The warm air rises in the flue 11 and passes into the drum where its temperature is raised by contact with the walls of the flues 13. This warm air passes through the grilles 16 and escapes into the room. The air flues and the drum maintain moving air currents around the fire box and the flues 13 and prevent excessive heating of the same, thereby reducing the fire hazard. The heat units and the heated air passing into the room will set up a circulation therein, whereby all of the air in the room will be handled and a more even temperature maintained.

The heating device being made in a unit construction may be readily installed in the mantel without tearing up the floor and the mantel may be built in a corner or against a wall.

In Figs. 6 and 7 I have shown a modified form in which I employ a vertical fire box 10′ constructed of suitable material and lined with fire resisting material if desired. On top of the box is mounted a transverse drum overhanging the box on each side and extending the width of the mantel 21′. In each end of the drum is mounted a grille 16′ secured to the face of the side wall of the mantel. If desired a baffle plate 19′ may be mounted at the top of the fire box, but this is not essential. Also in the drum may be arranged longitudinal partitions 15′ having their inner ends overhanging each other slipped over the fire box, but these may be omitted.

By reason of the drum extending through the mantel and having grilles at each side of said mantel, the drum is concealed and the front of the mantel is not defaced. An attractive fire place may be produced and an effective heater provided. The heat units and warm air being discharged on each side of the mantel will more effectively heat the room and maintain a circulation.

Various changes in the parts such as the addition of suitable dampers and other changes and alterations may be made within the scope of the claims and without departing from the spirit of the invention.

What I claim, is:

1. In a heating device, a fire box, an air flue contiguous to the sides of the fire box, a horizontal drum over the fire box, heat flues extending longitudinally through the drum and connected with the fire box, the air flue having connection with the drum separately from the fire box, the drum having air passages free from communication with the heat flues but connected with the air flue, the drum having outlets at its sides.

2. In a heating device, the combination with a chimney breast having a fire place, of a fire box arranged in the fire place, a vertical air flue in the fire place contiguous to the fire box, a horizontal air drum extending transversely through the chimney breast grilles at the ends of the drum on the sides of the chimney breast, and diverging heat flues extending longitudinally of the drum and connected with the fire box, the air flue being connected with the drum but being free from connection with the fire box or the heat flues.

3. In a heating device, the combination with a chimney breast having a fire place, of a fire box arranged in the fire place, a vertical air flue in the fire place contiguous to the fire box, a horizontal air drum extending transversely through the chimney breast grilles at the ends of the drum on the sides of the chimney breast, and diverging heat flues extending longitudinally of the drum and connected with the fire box, the air flue being connected with the drum but being free from connection with the fire box or the heat flues, and a grille at the front of the air flue and fire box.

4. In a heating device for fire-places, a vertical fire box having an open front, a vertical air flue surrounding the sides and back of the fire box but free from communication therewith, a transverse drum mounted on the fire box and extending beyond the same on each side, diverging heat flues mounted in the drum and extending from the fire box to each end thereof, air passages in the drum communicating with the air flue but free from connection with the heat flues, transverse partitions in the heat flues, and a baffle between the fire box and the heat flues.

5. In a heating device, the combination with a chimney breast having a fire place, of a vertical fire box arranged in the fire place, a vertical air flue contiguous to the fire box, a horizontal drum extending transversely through the chimney breast and connected with the air flue, a heat flue extending longitudinally of the drum, and portions mounted in the drum having their

inner ends in stepped order, the drum having outlets at its sides.

6. In a heating device, the combination with a chimney breast having a fire place, a vertical fire box arranged in the fire place, and a transverse drum extending entirely through the chimney breast and connected with the fire box, the drum being concealed in the chimney breast and having its ends exposed on each side of the chimney breast for discharging warm air into a room.

In testimony whereof I affix my signature.

THEODORE A. SALA.