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T. A. SALA

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FIREPLACE HEATER

Filed July 21, 1925

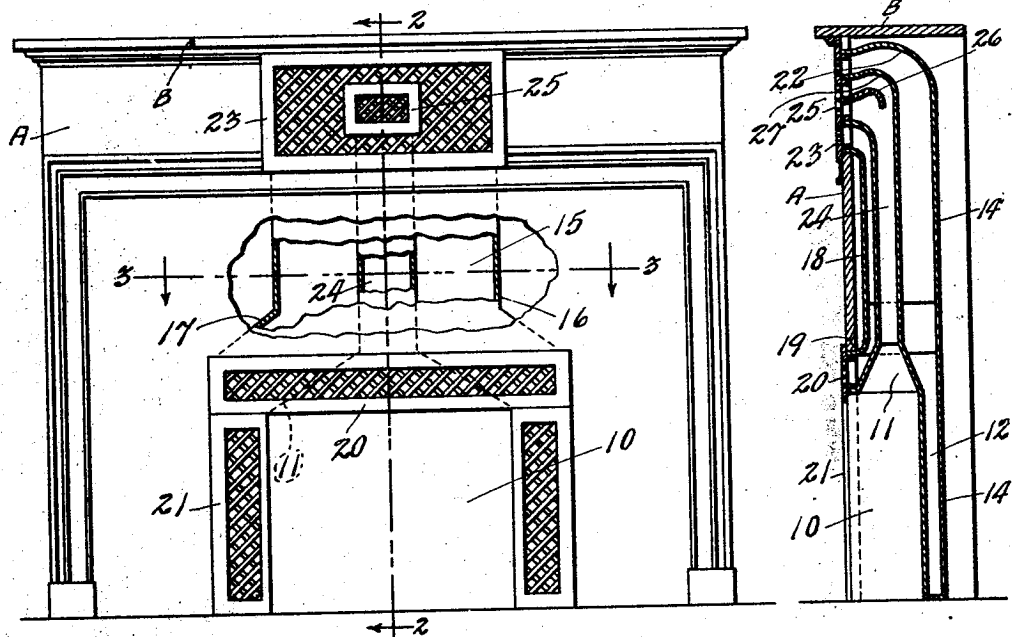


Fig. 1.

Fig. 2.

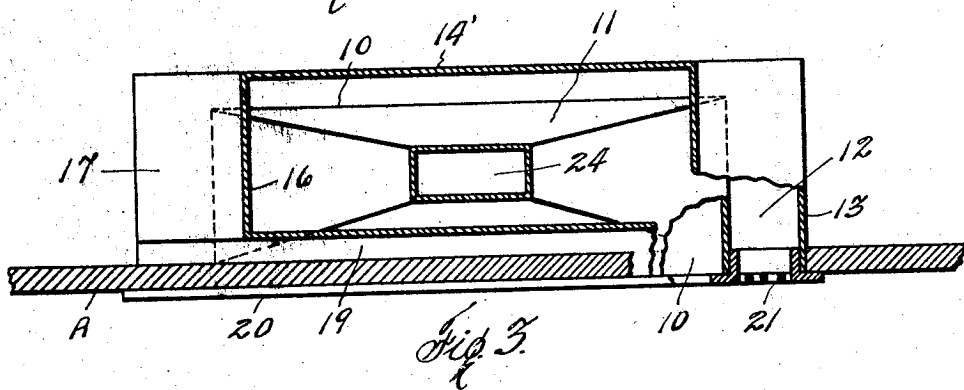


Fig. 3.

Inventor
T. A. Sala

Jack B. Schley
Attorney

UNITED STATES PATENT OFFICE.

THEODORE A. SALA, OF DALLAS, TEXAS.

FIREPLACE HEATER.

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This invention relates to new and useful improvements in fire place heaters.

As a rule a fire place heater does not heat a room as efficiently as a stove because the air is not circulated through the heater and returned to the room after being heated.

Fire place heaters equipped to circulate heated air currents have been developed and my invention has to do with this class of heaters.

The object of the invention is to promote and accelerate circulation of heated air currents to a very high degree of efficiency, whereby full benefit is had from the fuel consumed.

A further object of the invention is to circulate air currents through a fire place heater and to heat said currents to a different degree of heat, Fahrenheit, in separate channels, whereby some of the air currents are caused to move faster than others thus increasing circulation and heating efficiency.

Another object of the invention is to combine these features in a single unit which may be installed in a fire place and mantel or which may be built into a mantel.

A particular object of the invention is to deliver heated air currents of different temperatures through separate ducts at the upper part of the mantel and to discharge the same into the room to promote circulation and increase heating efficiency.

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 fire place heater constructed in accordance with my invention,

Fig. 2 is a vertical sectional view taken on the line 2—2 of Fig. 1, and

Fig. 3 is an enlarged horizontal cross-sectional view taken on the line 3—3 of Fig. 1.

In the drawings the numeral 10 designates a rectangular metal fire box having an open front and an inverted hopper top 11. A vertical flue 12 surrounds the sides and backs

of the fire box and is formed of vertical side walls 13 spaced from the side walls of the fire box and a back wall 14 spaced from the back wall of said box.

A comparatively large vertical duct 15 extends centrally above the top 11. The back of duct is formed by a continuation 14' of a portion of the back wall 14. The side walls 16 of the duct are connected with the side walls 13 by inclined walls 17. The front wall 18 of the duct has a lip 19 at its lower end turned out to a transverse grille 20 which extends across the top of the fire box and rests upon upright grilles 21 covering the fronts of the side portions of the flue 12. The grilles 21 admit air to the flue 12; while the grille 20 admits air to the front of the duct 15 above the top 11.

The duct 15 has its upper end 22 curved forwardly to a grille 23 which is spaced some distance above the grille 20. An inner duct 24 extends from the hopper top 11 of the fire box within the duct 15 and has its upper end 27 curved forwardly and connected with a central panel 25 in the grille 23. The curved head 27 of the duct 24 may be enlarged and a transverse deflector 26 may be placed therein.

In operating a suitable fire or heating unit is placed in the fire box 10. The products of combustion, together with the air which enters the fire box is heated, pass up into and through the duct 24. These currents are discharged through the panel 25. Air also enters the grilles 20 and 21 and passes across and up the flue 12 and is heated by contact and radiation from the fire box. These air currents rise into the duct 15 and are discharged from the grille 23. The air currents from the grille 23 would naturally be hotter and would circulate faster than the air currents discharged from the grille 23. This will cause a more rapid movement of the air in the room.

The grille 23 may be placed in the plate A below the mantel shelf B or the grille may be otherwise arranged at the top of the mantel. The grilles 20 and 21 may be set in the panel C of the mantel or a chimney breast (not shown). It is not necessary to build a chimney as the heater may be built into the wall.

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:

- 5 1. In a fire place heater, a fire box having an open front, a flue surrounding the back and sides of said fire box, front grilles for intake to the lower portion of said flue, a duct leading from the top of the flue, a
10 top grille at the upper end of the duct, and an inner duct leading from the top of the fire box surrounded by the outer duct and discharging within the area of the top grille.
- 15 2. In a fire place heater, a fire box having an open front, a flue surrounding the back and sides of said fire box and having open top and sides at the front thereof, grilles covering the front openings of the flue, a duct leading from the top of the flue, a top
20 grille at the upper end of the duct, and an

inner duct leading from the top of the fire box to substantially the center of the top grille.

3. In a fire place heater, an open front fire box having an inverted hopper top, an
25 inner duct leading from the top of the fire box, a flue surrounding the back and sides of said fire box and open at front on each side of the fire box, front grilles covering
30 the open front of the flue, a vertical duct surrounding the inner duct and having an opening at its lower front, a cross grille covering said opening at the bottom of the
35 vertical duct, each duct being bent outwardly at its upper end and the inner duct discharging within the area of the outer duct, and a top grille covering the discharge ends of the ducts.

In testimony whereof I affix my signature.
THEODORE A. SALA.