March 13, 1945. D. H. LAMAR 2,371,398

FIREPLACE HEATER

Filed Jan. 19, 1943

Fig. 1.

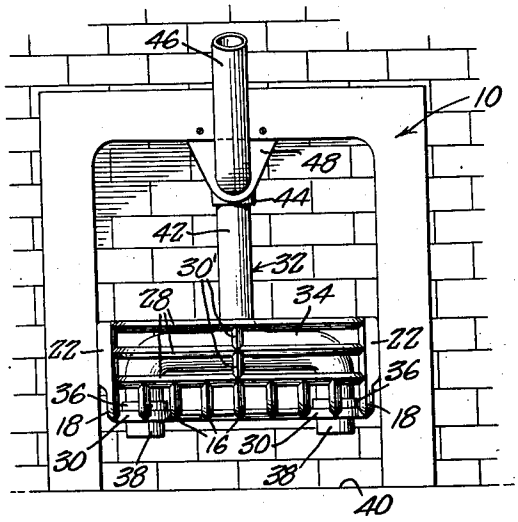


Fig. 2.

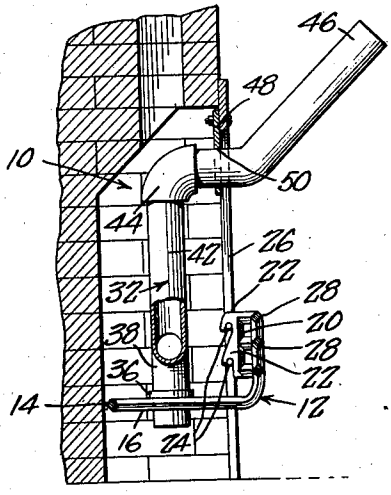


Fig. 3.

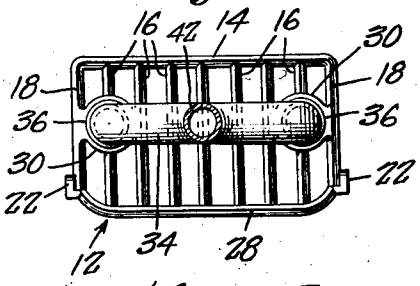


Fig. 4.

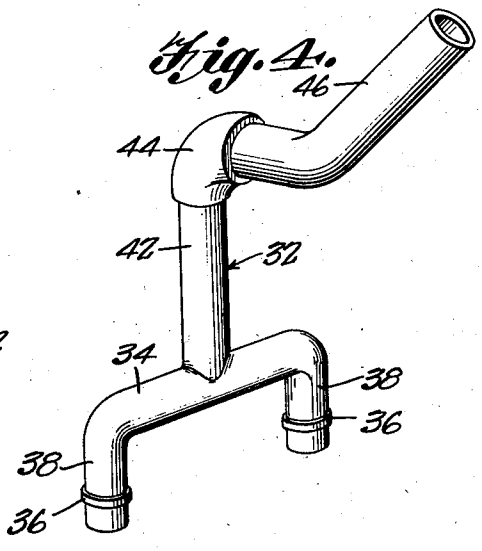
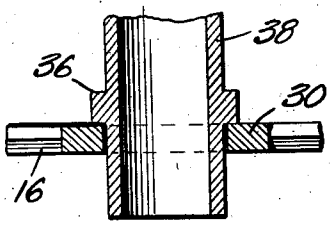


Fig. 5.



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UNITED STATES PATENT OFFICE

2,371,398

FIREPLACE HEATER

David H. Lamar, Fairmont, W. Va.

Application January 19, 1943, Serial No. 472,881

1 Claim. (Cl. 126—121)

My invention relates to fireplaces and has among its objects and advantages the provision of an improved heater designed to circulate air through the fire bed and deliver the heated air to the room, this air being collected before it is heated from a point close to the floor line beneath the grate of the fireplace.

In the accompanying drawing:

Figure 1 is a face view of a conventional fireplace showing my invention applied thereto.

Figure 2 is a vertical sectional view.

Figure 3 is a plan view of the grate and the greater part of my heater.

Figure 4 is a perspective view of the heater, and

Figure 5 is an enlarged sectional view of a part of the heater showing a mount therefor.

In the embodiment of the invention selected for illustration, I make use of a conventional fireplace 10 within which I mount a grate 12. This grate comprises a frame 14 provided with grate bars 16. The two end bars 18 of the frame 14 extend upwardly considerable distances and are provided with flanges 20 having hooks 22 engageable over pins 24 attached to a metal face frame 26 of the fireplace.

Horizontal grille bars 28 are attached to the two bars 18. All the bars 16 extend upwardly at their forward ends and are attached to the lowermost grille bar 28. Vertical brace bars 30' are attached to and extend between the respective bars 28. All the bars are cast or welded into a unitary structure.

Two rings 30 are attached to the bars 18 and some of the bars 16 to support an air circulating heater 32. This heater comprises an inverted U-shaped pipe 34 provided with a flange 36 on each of its two legs 38. The legs 38 fit in the rings 30 and the flanges 36 rest on the rings to support the open ends of the legs 38 some distance above the ash pit floor 40 to collect cold air beneath the grate structure.

A vertical tube 42 communicates with the pipe 34 and connects with an elbow 44 to which is connected a short piece of pipe 46 bent to project into the room. A bracket 48 is attached to the frame 26, which bracket is provided with an opening 50 through which the pipe 46 is projected for support.

The pipe 34, particularly its horizontal portion, lies in and above the fire bed on the grate 12. Thus the pipe will be effectively heated to cause warm air to circulate upwardly through the pipes 42 and 46 and into the room. The pipe legs 38 collect cold air underneath the grate structure and close to the floor surface, which air is returned in a heated condition to the room rather than passing into the flue. Such a construction increases the room heating efficiency of the fireplace.

Without further elaboration, the foregoing will so fully explain my invention, that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

I claim:

A heater for a fireplace having a grate therein, comprising an air circulation and heating conduit system having two spaced vertical sections supported by and passing through and beneath the grate near the ends thereof to admit cold air thereto from below the grate, and partially heat the same, a horizontally disposed conduit section connecting the spaced vertical sections at their tops and extending through and above the grate in proximity with the hot fuel bed therein to heat the cold air entering the spaced vertical sections, a vertical conduit connected with the horizontal conduit at a mid point between its ends, and extending within the heated area of the fireplace and a forwardly and upwardly angled conduit section attached to the vertical section for discharging hot air to a room, said spaced vertical sections having supporting flanges engaging supporting rings carried by the grate, and the forwardly and upwardly angled section supported by a bracket carried by the fireplace to mount the heater therein.

DAVID H. LAMAR.