A. E. PEAKE.

FIREPLACE RADIATOR.

APPLICATION FILED JULY 11, 1913.

1,128,358. Patented Feb. 16, 1915.

Fig. 1.

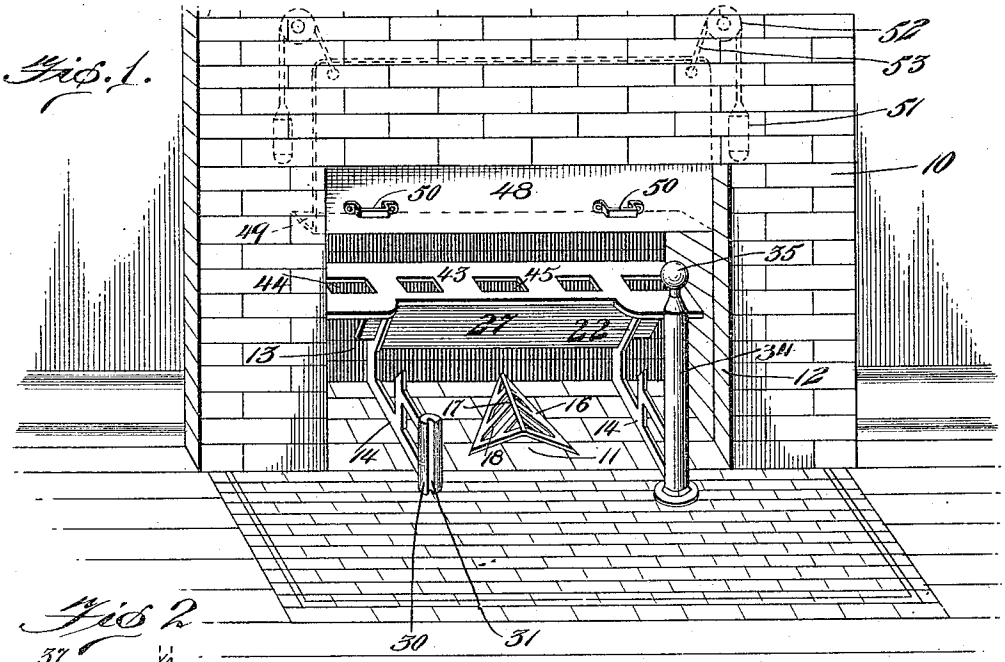


Fig. 2.

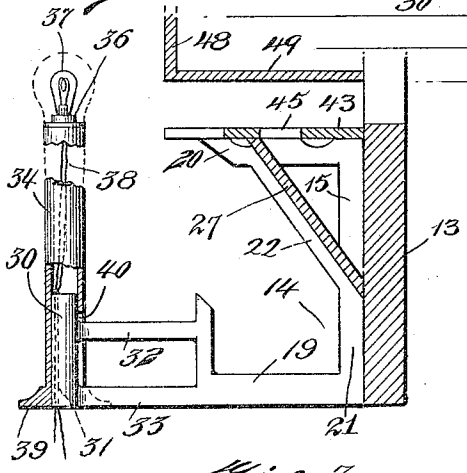


Fig. 4.

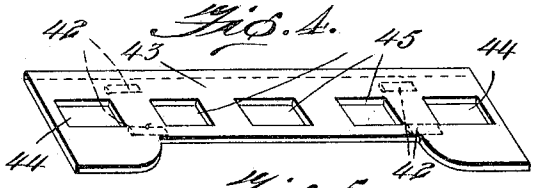


Fig. 5.

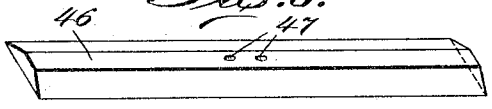


Fig. 3.

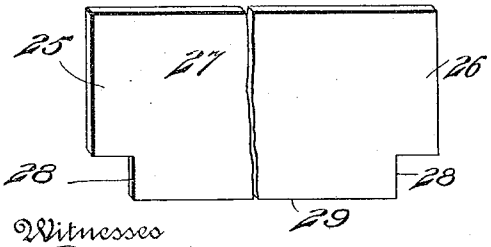
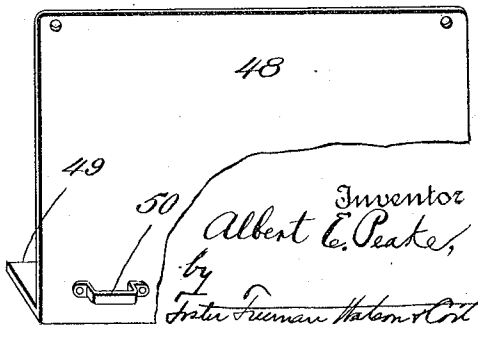


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE

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FIREPLACE-RADIATOR.

1,128,358. Specification of Letters Patent. Patented Feb. 16, 1915.

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To all whom it may concern:

Be it known that I, ALBERT E. PEAKE, a citizen of the United States, and resident of Portland, county of Multnomah, State of Oregon, have invented certain new and useful Improvements in Fireplace-Radiators, of which the following is a specification.

My invention relates to a new radiator for use inside of a fireplace.

The primary object thereof is to provide a durable device which will make the fireplace more comfortable and useful and less expensive to operate and to require less attention.

In carrying out the invention I provide a durable metal radiator which can readily be applied to the ordinary fireplace and of such form that, when properly placed in the fireplace, it will partly cover and confine the fire in such a way that the draft will pass in front of and above the fire, carrying off the smoke and causing the fire to burn with a bright steady glow and forcing the heat to radiate from the open fireplace. Heavy castings are arranged to prevent the heat from rising directly to the chimney and which assist materially in the radiation and reflection of the heat.

The device of my invention will save considerable fuel and is designed to use green or dry wood, coal or briquets or any ordinary fuel.

Further objects and advantages and the novel features of the invention will be apparent from the following description taken in connection with the drawing, in which,

Figure 1 is a view in perspective of a fireplace equipped with the radiator made according to this invention; Fig. 2 is a side view, showing part in section, of one of a pair of frames forming the support for the reflecting plates and the ornamental posts and also constituting andirons for the fireplace; Fig. 3 is a foreshortened perspective view of the solid flat casting which constitutes the angularly disposed reflecting plate; Fig. 4 is a perspective view of the horizontally disposed casting provided with draft openings; Fig. 5 is a perspective view of a cast metal lid for partially or wholly covering the openings of the plate shown in Fig. 4; and Fig. 6 is a perspective view, partly broken away, showing the sheet metal apron which closes the front of the fireplace and shuts off the draft.

Referring to the drawing, 10 indicates an ordinary fireplace which has a hearth provided with the bottom wall 11, side walls 12 and rear wall 13. A chimney flue, not shown, opens into the hearth at the top or upper end of the rear wall thereof, as is common in fireplaces of this type. A pair of angular castings 14, 14 in the form of a frame are set in the fireplace, the rear edge 15 thereof abutting against the rear wall 13 of the fireplace when the castings are set in position. The castings forming the supporting frame for the radiating and reflecting members are set near the side walls 12 and the fuel may be placed between the two, or supported thereon, the frames 14, 14 acting in this capacity much the same as the ordinary andirons.

To support the logs or fuel to a better advantage, I provide a triangular grate 16 which is set between the andirons 14, 14. The grate has a ridge 17 disposed above the bottom 11 when the grate is set in the fireplace, as shown in Fig. 1. The sloping sides taper to a point at the back and have long, narrow openings 18 pointing upwardly and rearwardly to allow the air to pass inwardly beneath the grate and upwardly through the openings 18, thereby supplying a greater quantity of air directly beneath the fire.

Each of the cast frames 14 comprises the parallel arms 19 and 20 joined by the arm 21 which is at right angles to the other two arms. An angular brace 22 connects the outer end of the arm 20 with the upright arm 21. The reduced ends 25 and 26 of the reflecting and radiating plate 27 rest on the upper edges of the angular braces 22 of the two frame members. The rear standards 21 of the frame members thus support the heat radiating plates at an angle to the rear wall of the fireplace behind the grate. The solid cast-iron reflecting plate 27 which is of considerable thickness so that it will retain and radiate the heat and, being a flat surface, will also reflect the heat out of the fireplace. The shoulders 28 abut against the inner surfaces of the frames and limit the endwise movement of the plate 27. The lower edge 29 of the plate 27 is so formed that the plate will fit flush with the rear wall 13 of the fireplace and at an angle to the latter. The forward end of each of the frames 14 has a short post 30 cast thereon which is provided with a groove 31. The post 30 is joined to

the main frame by the parallel parts 32 and 33 which join the post near the upper and lower ends thereof.

The post 30 and the frame to which it is attached form a support for the tubular ornamental standards 34, the heads of which may support any suitable ornament such as the ball 35. The standards may also, if desired, support a socket 36 for an incandescent lamp 37, the wiring 38 passing through the slot 31 in the post 30 and being concealed in the tubular standard 34. The horizontal parts 32 of the parallel frame members may also serve to support fuel, such as a log, between them and above the floor of the fireplace. The standards 34 will retain the log in place and prevent it from falling into the room.

At the lower end of the standard 34 there is a base 39 and a slot 40 extends part way lengthwise of the standard 34 so that the standard may be slipped onto the post 30, the parallel supporting members 32 and 33 of the post fitting into the slot 40 and forming a convenient and rigid connection between the standard, post and frame.

At the upper edge of the horizontal arm 20 of the frame members 14 there are recesses 41 to receive lugs 42 on the bottom side of the cast-iron plate 43. The plate 43 has draft openings 44 at its ends and three draft openings 45 intermediate the end openings. Of course, the number of openings in the plate may be varied, it being merely desirable to have a series of openings in the plate. The plate 43 is supported horizontally and abuts against the rear wall 13 and against the upper edge of the angularly disposed plate 27, forming a triangular chamber behind the plate 27 and beneath the openings 45. A cast-iron lid 46, shown in Fig. 5, is formed of a sufficient width and length to cover the openings in the plate 43 and the bottom face of the plate 46 may be slid along the top surface of the plate 43 to cover and uncover the openings therein. Suitable openings 47 are provided to receive an appliance for moving the plate 46.

As shown in Figs. 1 and 6, an apron 48 is supported within the fireplace and moves along the side walls thereof. At the lower edge of the apron 48 there is a right angle extension 49 extending rearwardly, and of such a size as to completely cover all of the openings in the horizontal plate 43 when it is desired to shut off the draft. Handles 50 are attached near the opposite ends of the lower edge of the apron 48 and counter weights 51, suspended from pulleys 52 by cords 53, which latter are attached at the upper edge of the apron, counterbalance the apron and support the same in any desired position. This arrangement affords a convenient means for readily raising and lowering the apron.

The operation of the radiator will be apparent from the foregoing description. The heat from the fire beneath the angularly disposed plate 27 will be reflected out of the fire place and will also heat the plate 27 and other metal parts which latter will radiate the heat into the room. The gases from the fire will travel in opposite directions beneath the plate 27 and upwardly at the ends of the latter through the openings in the plate 43. This long, circuitous course will afford a greater amount of useful heat from a given amount of fuel and result in economy. The grate has a special advantage in that it can be removed and replaced very readily, clearing its own way as it is slid in along the bottom of the hearth without disturbing the fire, and furthermore allows a greater access of air to the fire.

The radiator described can be constructed so as to be easily applied to an ordinary fireplace and is of a simple, durable and inexpensive construction.

It will be apparent that numerous changes may be made without departing from the spirit of the invention, and therefore I do not wish to be limited to the exact details as shown and described.

Having thus described my invention, what I claim is:

1. A fireplace radiator comprising a plate having a series of draft openings therein, a second plate disposed intermediate the ends of and at an angle to the first plate and below the openings therein, and means for supporting said plates above the floor of the fireplace and adjacent the rear wall thereof comprising a pair of frame members adapted to rest on the floor of the fireplace and engaging the plates near their ends.

2. A fireplace radiator comprising a substantially horizontal plate arranged below the chimney flue and having draft openings therein, a solid reflecting plate arranged at an angle to the first plate, beneath part of the openings therein and intermediate the ends thereof, a pair of substantially similar end frames for supporting the plates at the rear of the fireplace, and means for controlling the draft through said openings.

3. A fireplace radiator comprising a plate having draft openings therein abutting against the rear and side walls of the fireplace below the chimney flue, a solid reflector plate abutting against the rear wall of the fireplace and forming a chamber between said plates and rear walls, means for supporting said plates above the hearth of the fireplace, and means adapted to cover the openings in the first plate.

4. In a fireplace radiator, the combination of a plate having draft openings therein, a reflecting plate disposed below and at an angle to said first plate and intermediate the ends thereof leaving a chamber between the

plates and the rear wall of the fireplace and draft openings beyond the ends of the reflecting plate and a grate beneath the reflecting plate provided with sides disposed at an angle to the bottom of the fireplace and to the reflecting plate, the said sides having openings therein and the grate being arranged so that the draft of the fire will pass through the openings in the side thereof and thus be directed toward the openings left at the ends of the reflecting plate.

5. A fire-place radiator adapted to be located at the rear of the grate, said fire-place radiator comprising a plate having draft openings therein, a second plate extending from in front of the draft openings, rearwardly and downwardly beneath said first plate and arranged so as to cut off direct communication between the grate and said draft openings, and means for supporting said plates at the rear of the fire-place.

6. In a fire-place radiator, the combination of a plate having draft openings therein, a second plate extending from in front of the draft openings, rearwardly and downwardly beneath said first plate, said second plate being disposed intermediate the ends of the first plate and preventing direct communication between the grate and said draft openings, and means for supporting said plates above the floor of the fireplace and at the rear of the grate.

7. In a fire-place radiator, the combination of a frame comprising front and rear standards, and heat reflecting and radiating means supported by the rear standards at the rear of the fire-place, said frame having means adapted to support fuel above the floor of the fire-place, and said front standards being adapted to retain the fuel in the fire-place.

8. In a fire-place radiator, the combination of a supporting device comprising similar parallel frame members having front and rear standards, and a heat radiating plate supported near its ends by said rear standards and at the rear of the fire-place, said frame members having means adapted to support a log between them, said front standards being adapted to retain the log in place, and also adapted to support ornamental devices.

9. A fireplace radiator comprising a plate having a draft opening therein, a reflecting plate disposed beneath and at an angle to said first mentioned plate, said reflecting plate being of such a length that it will terminate short of the side walls of the fireplace, and side frame members capable of supporting the plates at the rear and above the floor of the fireplace.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT E. PEAKE.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."