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3,368,545

AIR HEATING DOOR ON A FIREPLACE

Filed May 5, 1965

Fig. 1.

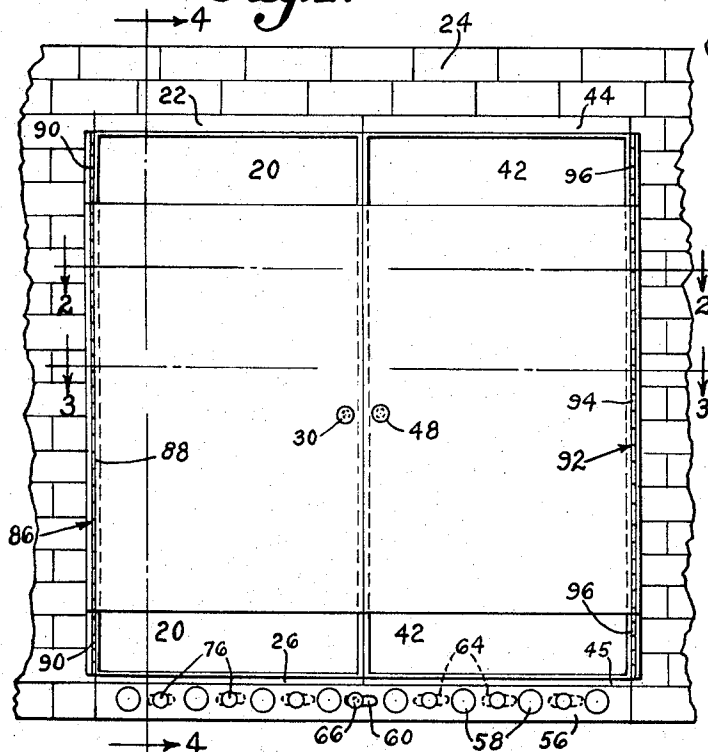


Fig. 2.

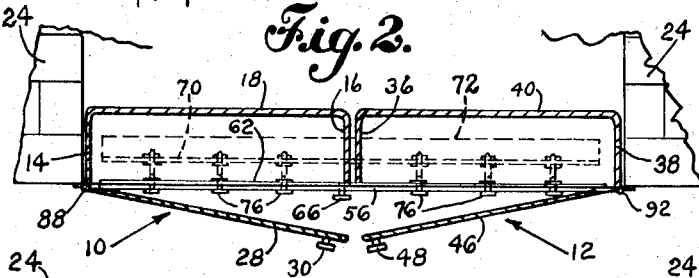


Fig. 3.

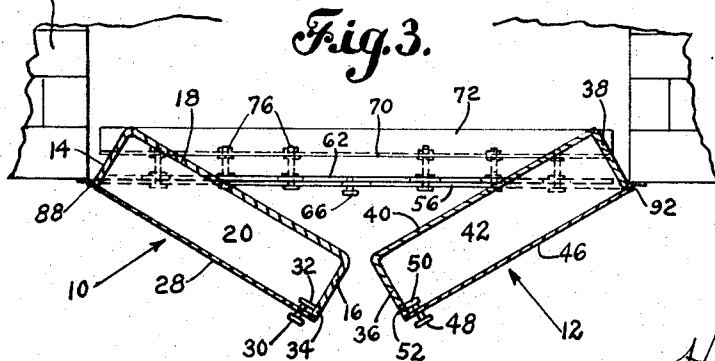


Fig. 4.

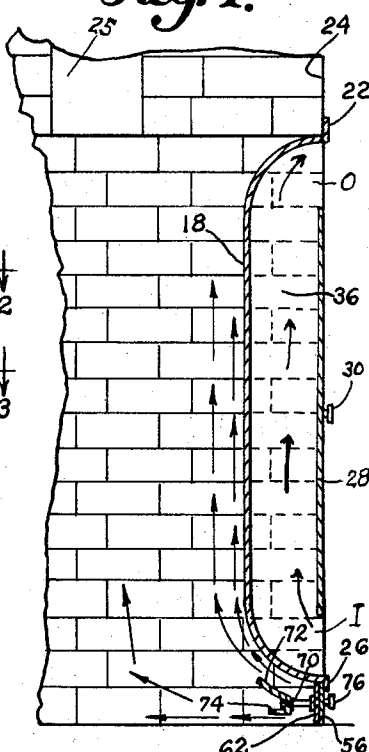


Fig. 5.

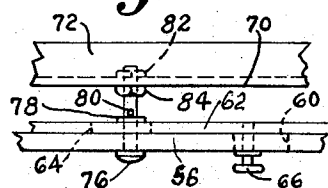
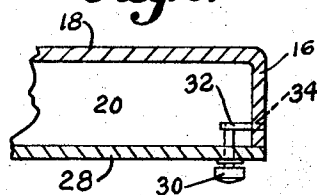


Fig. 6.



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3,368,545
AIR HEATING DOOR ON A FIREPLACE
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This invention relates to heating apparatus for a fireplace.

One object of my invention is to make more efficient use of the heat generated by a fireplace fire by transferring heat from the fireplace into the room.

Another object is to provide for this transfer of heat by means of a heating member at the front of the fireplace that will induce the circulation of air therethrough as it is heated by the fireplace fire.

Still another object is to provide a draft control member below the main air passage in the heating member, rearwardly of which is an air diverter to divert some draft air into contact with the heating member back, and also divert some to the fireplace combustion chamber.

A further object is to provide such apparatus that can readily be used with a fireplace already built.

A still further object is to provide such apparatus that is relatively simple to construct, install and remove, as well as to clean.

The foregoing and other objects which will appear as the nature of the invention is better understood may be accomplished by a construction, combination and arrangement such as is disclosed by the drawing. The nature of the invention is such as to render it susceptible to various changes and modifications, and therefore, I am not to be limited to the construction disclosed by the drawing, nor to the particular parts described in the specification; but am entitled to all such changes therefrom as fall within the scope of my claim.

In the drawing:

FIG. 1 is a front elevational view of my heating apparatus combined with a fireplace, the latter being shown broken away.

FIG. 2 is a sectional view taken on the line 2—2 of FIG. 1.

FIG. 3 is a sectional view taken on the line 3—3 of FIG. 1.

FIG. 4 is a sectional view taken on the line 4—4 of FIG. 1.

FIG. 5 is an enlarged, top plan view showing a draft member connected to a deflector.

FIG. 6 is an enlarged, sectional view showing a heating member front in closed position.

As illustrated, my heating apparatus for a fireplace has a heating member shown as two members 10 and 12, although if a fireplace is relatively small only one heating member need be provided. Said heating member 10 has a left side 14, a right side 16 and a back 18. The latter extends angularly forward at the top and bottom as shown by the upper and lower curved portions 18a and 18b respectively, and reaches the front of the fireplace as shown in said FIG. 4. Said back is spaced from a front 28, later described, to thereby provide a duct or air passage 20 for air to be heated as it flows in front of a fire in the usual fireplace. Said sides 14 and 16 are attached to said back 18 and said front 28, and may be made of metal.

Said back 18 extends into the usual fireplace chamber and to keep it in predetermined position it has an upper stop member 22 that bears against the usual outer surface of a fireplace structure 24 having a flue 25. It also has a lower stop member 26 that bears against a draft member front plate 56 later referred to. These stop members 22 and 26 keep the heating members 10 and 12 in the desired position in relation to the fireplace.

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Said heating member 10 has a front 28 shown as a door and which is lesser in height than said back 18 and is spaced from the top and bottom thereof, thus leaving an air inlet space I at the bottom and an air outlet space O at the top through which spaces air from a room enters and leaves said passage 20.

When said front 28 is formed as a door, which is desirable, but not necessary, it has a knob 30 attached to a latch 32 that may enter a slot 34 in said side 16 to unite the front 28 with said latter side whereby said heating member 10 may be moved as a unit, as shown in said FIG. 3.

Said heating member 12 is formed similarly to member 10. It has a left side 36, a right side 38, and a back 40 forwardly of which is a passage 42 for air similar to passage 20. Said back 40 has an upper stop member 44 and a lower stop member 45 which serve similar purposes as stop members 22 and 26. It also has a front 46 similar to front 28 with a knob 48 connected to a latch 50 that can enter a slot 52 in said side 36 to move said heating member 12 as a unit.

A draft member has a front plate 56 having air draft holes 58 therethrough and a slot 60. A draft slide 62 has slots 64 therethrough and the usual holes to register with holes 58 when slid to open position. A knob 66 extends through said slot 64 and is attached to said slide 62 to control movement of the latter. As shown, said back 18 is spaced from the bottom of said fireplace to provide a space for said draft member front plate 56.

Below said back 18 and extending into the lower portion of the usual fireplace combustion chamber is a deflector 70 having a curved upper guide 72 approximately parallel with and inwardly of the adjacent curve in said back 18. This provides a short passage to direct incoming air against the inner or rear surface of said back to thus prevent accumulation thereon of ashes or debris from smoke. Said deflector 70 also has a lower guide 74 to direct incoming air to the combustion chamber farther rearwardly of said back.

Studs 76 extend through said draft member 56, draft slide 62 and said deflector 70 to which they are attached, thus mounting these members together. Washers 78 bear against the rear of said slide 76 being held in position by cotter pins 80. A nut 82 bears on the inner surface of said deflector 70 and another nut 84 bears on the outer surface thereof.

A main hinge 86, such as the piano hinge type, is attached to said outer structure 24. It has an intermediate portion 88 hingedly connecting to said front 28 so it can be opened separately from the remainder of said chamber 10 as shown in said FIG. 2. Another hinge portion 90 thereof is attached to said chamber side 14 to thus permit said heating member 10 to be swung open, including said front 28, as shown in said FIG. 3.

Another main hinge 92, similar to hinge 86, is attached to said outer structure 24. An intermediate portion 94 hingedly connects said front 46, and another hinge portion 96 hingedly connects to said chamber side 38, thus serving purposes the same as said hinge portions 88 and 90.

Said hinges 86 and 92 permit said heating members 10 and 12 to be swung out of the way when wood or other fuel is applied to the fireplace combustion chamber. When either or both of said latches 32 and 50 are removed from said slots 50 and 52 respectively, the interior of said members 10 and 12 may be cleaned upon swinging said fronts 28 and 46 respectively to open position.

What I claim is:

1. Heating apparatus in combination with a fireplace, said apparatus comprising a heating member having a back extending into the interior of said fireplace, a front spaced forwardly from said back to thereby provide an

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air passage, means connecting said back and front, said front being spaced at its lower and upper extremities from the bottom and top of said back to thereby provide an inlet and an outlet respectively for said passage, the lower extremity of said back being spaced from the bottom of the fireplace, a draft member extending into the latter space having holes therethrough to permit passage of air to the fireplace chamber, and a deflector in said latter space inwardly of said draft member having an upper guide extending rearwardly into the fireplace chamber and a lower guide extending rearwardly into the fireplace chamber and spaced below said upper guide.

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FREDERICK KETTERER, *Primary Examiner.*