Nov. 1, 1938. T. B. WINNETT 2,134,935

FIREPLACE HOT AIR CIRCULATOR

Filed Sept. 7, 1937

Fig. 1

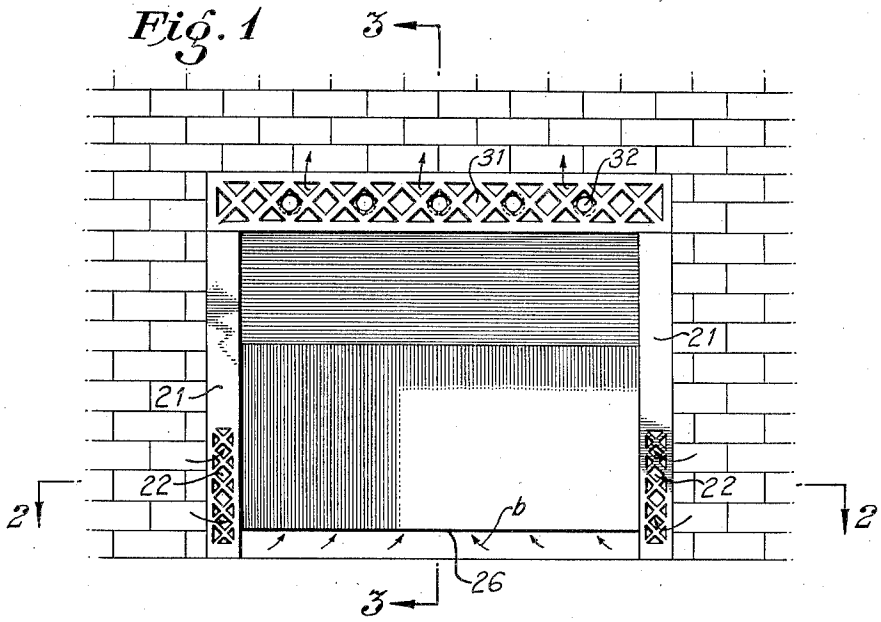


Fig. 2

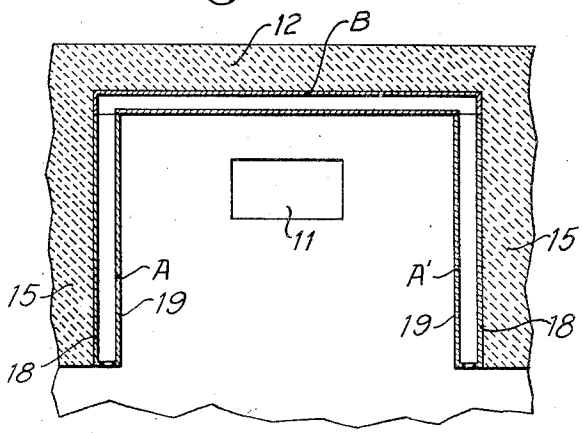


Fig. 3

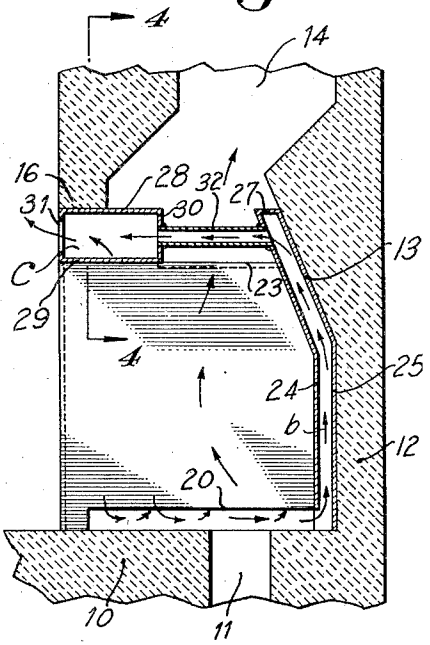
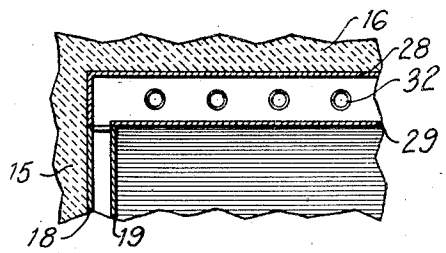


Fig. 4



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FIREPLACE HOT AIR CIRCULATOR

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1 Claim. (Cl. 126—121)

This invention relates to improvements in fireplace hot air circulator.

As is well known to those skilled in the art, the ordinary fireplace is a very inefficient heating arrangement for a room due to the fact that the only heat utilized is substantially solely confined to the radiant heat given off into the room. It has heretofore been proposed to utilize a greater part of the heat generated in newly built fireplaces by incorporating air ducts in the adjacent masonry while the fireplace is being built, so as to deliver heated air into the room by convection. Such prior heated air arrangements, however, are relatively expensive and necessarily confined practically entirely to new construction, since they are not adapted to be incorporated with fireplaces already built without much labor and expense involving tearing out and replacement of some of the masonry.

One object of the present invention is to provide a simple and relatively inexpensive arrangement for delivering heated air into a room from a fireplace, which arrangement may be readily installed in fireplaces already in existence and without necessitating any modification or disturbance of the fireplace masonry.

Another object of the invention is to provide a hot air circulator for fireplaces which circulator is preferably made in sections easily installed in existing as well as new fireplaces, and so arranged that the air is conducted up both sides and the back of the fireplace and delivered to the room from the top of the fireplace where the air has imparted thereto a final heat just before delivery into the room, thus providing unusually economical and efficient construction.

Other objects of the invention will more clearly appear from the description and claim hereinafter following.

In the drawing forming a part of this specification, Figure 1 is a front elevational view of a fireplace showing the improvements of the present invention incorporated therewith. Figure 2 is a horizontal sectional view corresponding substantially to the line 2—2 of Figure 1. Figure 3 is a vertical sectional view, corresponding substantially to the line 3—3 of Figure 1. And Figure 4 is a detail vertical sectional view, corresponding to the line 4—4 of Figure 3.

In said drawing, the fireplace proper is shown as having a base or hearth 10 with suitable ash-pit opening 11; back wall 12 with upper inclined section 13 leading to the chimney opening 14; vertical side walls 15—15; and horizontal top wall 16. Said fireplace may be made of brick, stone or other type of masonry and the details varied in minor respects, as will be understood by those skilled in the art.

The improved hot air circulator, as shown, comprises two complemental side panels A—A'; a back wall panel B; and a top member C. Said four parts A, A', B and C may all be incorporated into a single unitary construction, but preferably in the utilization of the present invention, are separately formed so as to be more readily fitted to and inserted in existing fireplaces without necessitating any disturbance whatsoever of the masonry of the fireplace.

The two side panels A—A' are of complementary construction and each consists of a hollow flattened boxlike construction having an outer vertical wall 18 extending from the hearth up to the horizontal member C and a parallel inner wall 19 extending also to the member C but cut away as indicated at 20 at the bottom so as to provide an inlet for air at the bottom, as indicated by the arrows *a*—*a* in Figure 3. Each panel A—A' is also provided with a front wall 21 perforated near the bottom thereof and preferably of grill formation as indicated at 22 of esthetic appearance. Each panel A—A' is partially closed at the top by the wall indicated at 23, in Figure 3 and open, forwardly of the wall 23 to admit the rising air to the member C.

The rear panel B is conformed to the back wall 12 of the fireplace and has front and rear spaced walls 24 and 25. The front wall 24 is cut away at the bottom so as to leave a cold air admission port 26, preferably extending the full width of the fireplace, as shown in Figure 1. The panel B is closed at its top, as indicated at 27 and the air is adapted to circulate upwardly therethrough, as indicated by the arrows *b* in Figures 1 and 3.

The top member C of the heat circulator is of elongated hollow boxlike form, having a top wall 28, bottom wall 29, rear or inner wall 30 and perforate, preferably grill, front wall 31. The panels A—A' and top member C are preferably made flush with the front surface of the fireplace, as shown, and the top member C is of such dimension, horizontally, that its back wall 30 is spaced from the back panel B a sufficient amount to allow proper circulation of the products of combustion upwardly into the chimney flue 14.

Communication between the back panel B and the top front member C is preferably provided in the form of a series of horizontally spaced pipes 32, 32, which may be welded at their re-

spective ends to the members B and C, as shown in Figure 3. It will be observed that the pipes **32** are subject to the direct heat from the products of combustion passing up into the chimney, but are not of sufficient size so as to interfere with proper draft.

In carrying out the invention, it is evident that the hollow panels or sections A, A', B and C may be made at comparatively small expense to fit any existent fireplace and the several members readily assembled therein without disturbing the masonry. As will be apparent from the drawing, the two side panels A and A' serve to hold the rear panel B in place and also the side panels A A' provide the necessary support for the top front member C. Thus, with the panels A A' and B and the top member C made in separate units, the improvements can be inserted within a previously built fireplace, not only without disturbing the masonry of the fireplace but without necessitating the use of any mortar, separate locking devices or the like for maintaining the parts in proper place. Said members A, A', B and C are preferably made of reasonably heavy gauge sheet iron or steel. When the members are in place, it is evident that the colder air enters through the front lower grill work **22**, bottom openings **20** of the side panels and bottom opening **26** of the back wall panel. All the air is conducted upwardly in said side and back panels and obviously gradually heated from any fire within the fireplace, all of the air being ultimately delivered through the top or head section C and from the latter into the room through the grill face **31**. The arrangement adds greatly to the heating efficiency of the fireplace since a large quantity of heated air may be continuously delivered to the room, thus utilizing heat units that would otherwise pass up the chimney.

As will be apparent to those skilled in the art, various changes and modifications may be made in the details of construction and arrangement of parts without departing from the spirit of the invention. All changes and modifications are contemplated that come within the scope of the claim appended hereto.

What is claimed is:

A hot air circulator for fireplaces and adapted to be inserted within a previously built fireplace, said circulator comprising: two hollow, vertical side panels, a substantially vertical rear hollow panel, and a hollow top front member, said side and back panels having means for admitting cold air near the bottom thereof, and said top front member having a warm air outlet in the front thereof; and means for conducting air from said side and back panels to said top front member, said side panels being disposed in front of and engaging the back panel to thereby hold the latter in place and said top front member having its ends extended over and supported upon the tops of said side panels, said panels and top member being formed as separate units whereby the same may be inserted within a previously completed fireplace without modification of the latter.

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