

W. HAGENBUCH.  
 FIREPLACE.  
 APPLICATION FILED APR. 4, 1917.

1,350,495.

Patented Aug. 24, 1920.

FIG. 1.

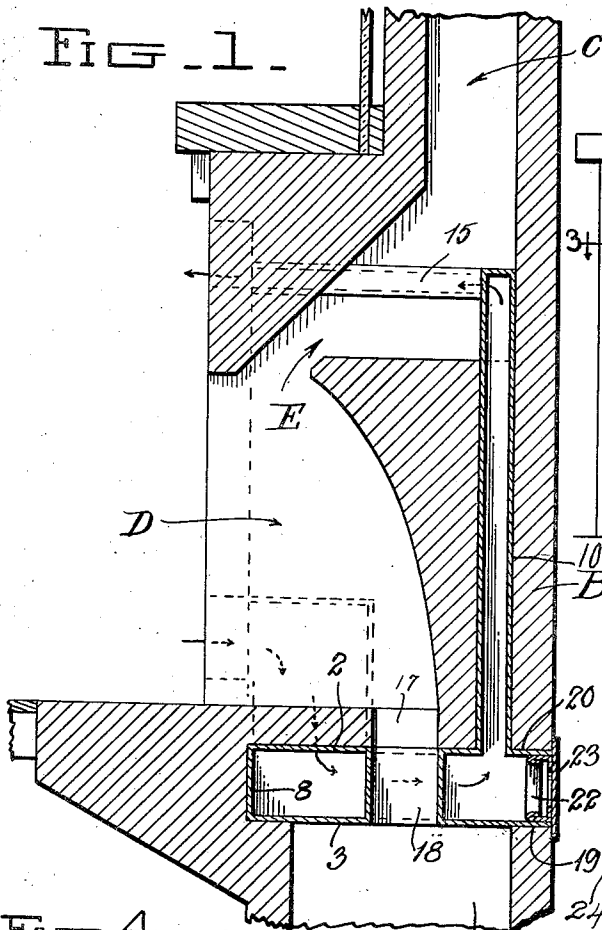


FIG. 2.

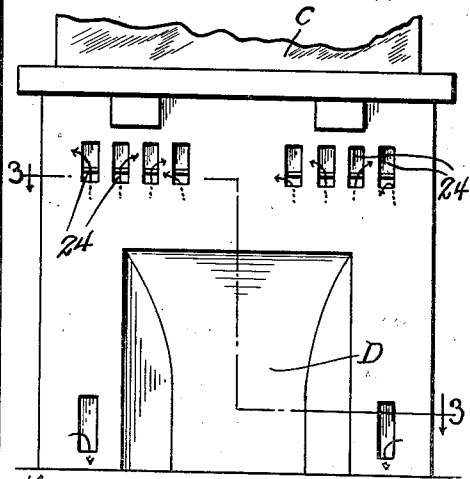


FIG. 3.

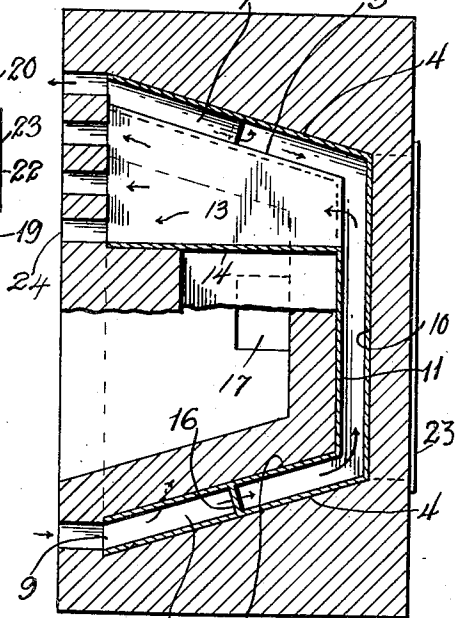
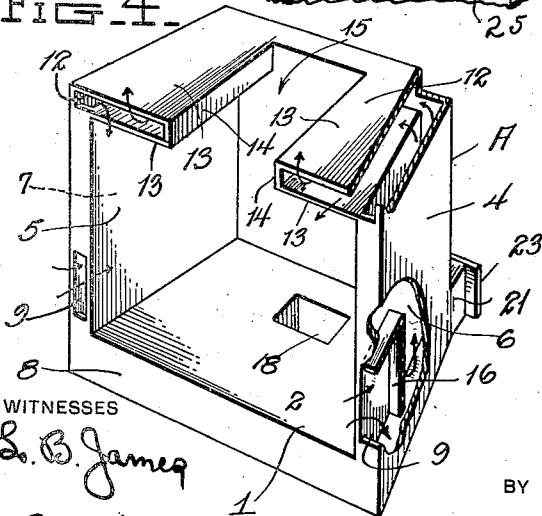


FIG. 4.



WITNESSES

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## FIREPLACE.

1,350,495.

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*To all whom it may concern:*

Be it known that I, WALTER HAGENBUCH, a citizen of the United States, residing at Martinez, in the county of Contra Costa and State of California, have invented certain new and useful Improvements in Fireplaces, of which the following is a specification.

This invention relates to fireplaces and more particularly to an improved construction for an open fireplace.

The primary object of the invention is to provide a fireplace having a structure that will facilitate the circulation of air around the sides and the rear of the fire-box, where- by cool air may be thoroughly heated when drawn into the lower passages in the air circulating system of the device, and permitted to follow its natural tendency to rise and then be excluded at points above the fire-box.

A further object of the invention is to provide a plurality of passageways for air, the passageways having inlets and outlets disposed in position for facilitating the intake of cool air for permitting the same to be thoroughly heated before being ejected from the outlet openings of the passageways.

The invention also aims to provide a fireplace that will eliminate the possibility of the room being filled with the fuel gas emitted from the burning fuel in the fire-box.

A further object of the invention is the provision of a single metallic unit constructed to be arranged in the fireplace structure, so that brick and masonry may be built around the fireplace to provide any preferred design while the air passages will not be interfered with.

The above and additional objects are accomplished by such means as are illustrated in the preferred embodiment and in the accompanying drawings, wherein like characters denote like or corresponding parts throughout the several views, in which;

Figure 1 is a vertical transverse section through a fireplace constructed in accordance with my invention.

Fig. 2 is a front elevation of the same.

Fig. 3 is a horizontal section on the line 3-3 of Fig. 2.

Fig. 4 is a detail perspective view, partly broken away, illustrating the single metallic unit for providing the air passages.

Referring to the drawing, wherein is illustrated the preferred form of my invention, and in which like numerals of reference indicate corresponding parts throughout the several views, A designates the single unit constructed to provide a plurality of air passages for permitting the circulation of air in the desired manner. The base 1 comprises the walls 2 and 3 which are shaped to conform with the firebox commonly employed in fireplaces. The bottom wall 3 of the base 1 is slightly larger than the upper wall 2 and is contiguous with the vertical side walls 4. The end edges of the wall 2 are integrally connected with the adjacent vertical walls 5 so that the walls 4 and 5 at each side of the fire box are disposed in comparatively close relation to provide the side passages 6 and 7. The front of the bottom passage in the base 1, and the front of the side passages 6 and 7 are closed by the front wall 8. This wall, however, is provided at each side, adjacent the lower edge thereof with inlet openings 9 to permit the air to pass from the atmosphere to the passageways 6 and 7.

A double rear wall is provided and consists of the walls 10 and 11 disposed in close relation at a distance equal to the distance between the walls 4 and 5 thus providing a continuous passageway around the unit. Two passages 12 are provided at the top of the unit and each consists of the walls 13 connected by the short narrow wall 14, the latter being disposed in spaced relation at the top of the unit thus allowing a relatively large opening 15 for forming a smoke and gas exit when the device is mounted in position.

In order that the air passing in through the openings 9 may be deflected downwardly into the base chamber, I have provided a baffle wall 16 at each side of the device, one in each passageway 6 and 7. This wall projects inwardly from the top of the opening 9 as clearly shown by Fig. 4 of the drawing and then is turned at right angles and extends downwardly terminating at the lower edge of the wall 5. The air, therefore, in entering the passageways must be deflected downwardly to pass through the base chamber and along the walls 16 before entering the rear of the passages and the space between the rear double walls.

An opening 17 is formed in the bottom of

the fire place and communicates with the opening 18 in the walls 2 and 3 thus forming an exit for the ashes.

The rear marginal edge of the bottom wall 5 3 is provided with an extension 19 and the lower marginal edge of the rear wall 10 is also provided with an extension 20 disposed above the extension 19. The ends of these extensions are connected by end walls 10 21 thus forming a vent 22 which extends through the wall B of the building and has communication with the exterior of the building. A suitable cap or cover plate 23 is mounted in the vent for normally closing 15 the same, and it will be obvious that the same may be removed when desired.

This air unit A may be arranged in position against the wall B and below the chimney C after which the masonry may be built-up 20 into place around the sides and front of the unit. The interior of the unit may be lined with fire-brick to form the fire-box D within which the fuel will be burned and the fire-box will have communication with 25 the chimney C through the passageway E, the latter leading through the exit 15. The front of the fireplace structure or masonry will be provided with a plurality of openings 24 which may be of any desired size for 30 establishing communication between the interior of the room and the interior of the upper passageways 12.

In use, the cool air will pass in through the openings 9, it being natural for the cool 35 air to follow the lowermost course. The air will then circulate in the base chamber, and be deflected downwardly by the baffle plates 16 after which it will be permitted to circulate around the back and sides 40 through the corresponding passageways, and thus outwardly through the upper passageways seeking an exit through the openings 24. By this time, the air will be thoroughly heated and the continued circulation of air will cause the room to be quickly 45 warmed to the desired temperature while, at the same time, it will permit the entire draft to be maintained on the fire through the chimney 6. The gases, smoke and soot 50 may thereby be carried off through the chimney without the possibility of gas ac-

cumulating in the room as often happens where it is necessary to partially close the chimney by dampers or the like to direct some of the heat into the room.

Below the fireplace structure is an ash pit 55 25 having communication with the ash openings 17 and 18. This ash pit is preferably arranged in the basement or cellar, and the ashes from the fireplace may be easily passed 60 through the openings 17 and 18 into the ash pit 25.

From the foregoing it will be observed that a very simple and durable fireplace has been provided, the details of which 65 embody the preferred form. I desire it to be understood, however, that slight changes in the minor details of construction may be made without departing from the spirit of the invention or the scope of the claim 70 hereunto appended.

I claim:

A fire place structure comprising a hollow unit provided with double walls at its bottom, top, sides and rear, the top wall being 75 centrally divided to form an opening for the escape of the products of combustion, air exit passages being formed between the double walls at opposite sides of the opening, the double side walls forming side pas- 80 sage ways communicating with said passages, baffle members arranged within said side passage ways, said fire place being provided with a front wall having inlet openings, said baffle members being disposed ad- 85 jacent said inlet openings to direct the incoming air from the inlet openings downwardly to the bottom of the side passages, the rear marginal edge of the bottom wall having a rearwardly extended portion, and 90 the lower marginal edge of the rear wall having an extension above said first mentioned extended portion whereby the two extensions form a vent in communication with the space between said bottom walls. 95

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

WALTER HAGENBUCH.

Witnesses:

CARLOS CORTES ORTIGOSA,  
AGNES C. HAGENBUCH.