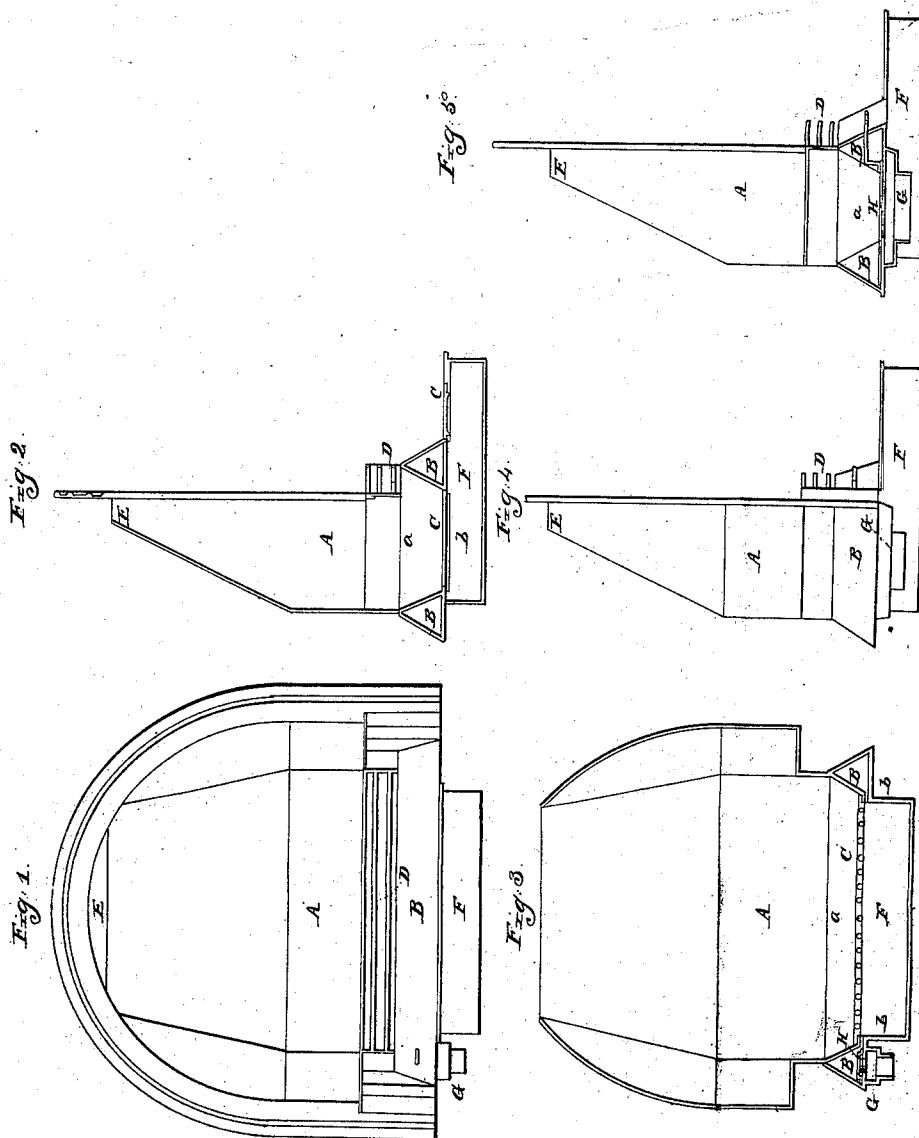


W. BRYENT,
FIREPLACE.



WITNESSES:

J. P. Cole
Frederick Curtis

INVENTOR:

Walter Bryant
by his attorney
R. J. E. & Co.

UNITED STATES PATENT OFFICE.

WALTER BRYENT, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN FIRE-PLACES.

Specification forming part of Letters Patent No. 42,342, dated April 19, 1864.

To all whom it may concern:

Be it known that I, WALTER BRYENT, a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Parlor-Grates or Open Fire-Places; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a front elevation of a fire-place of my improved construction. Fig. 2 is a vertical and transverse section of it. Fig. 3 is a longitudinal section of it, the plane of section being through the air-heating passage or chamber surrounding the grate. Fig. 4 is an end view of the fire-place, while Fig. 5 is a vertical section taken through the slide-valve and air-induction opening of the said air-heating chamber.

The nature of my invention consists in an improved open fire-place, as constructed with an air-heating chamber arranged around its grate and the jambs of the fuel-space in manner, and provided with an air-discharging passage arranged in front of the grate, and so as to discharge air downward out of the same and into the ash pit or chamber beneath the grate, as hereinafter explained.

In the drawings, A denotes the main body of the fire-place, which is supported on a rectangular tubular case, B, which goes around and extends above the entire grate C and forms part of the chamber or space *a* over it for the reception of the fuel for combustion in the grate, the remainder of the said space being formed by an upright grate, D, and the said body A. The fire-place is open in part, is provided with a throat, E, in the usual way, and is supported on an ash pit or box, F, which extends underneath and in front of the grate C.

There is an air conduit, G, leading into the case B, such case and conduit being provided with a register-valve, H, by which the admission of the air into the case B may be regulated at pleasure. It is intended that the conduit shall also communicate with the external

atmosphere, so as to lead fresh air into the space B. This air, after being heated within this space or chamber, is discharged in a thin sheet out of an elongated opening or passage, *b*, made in or through the sides of the air chamber or case B, and leading along the front of the grate C, and so as to discharge the air into the ash-pit and directly underneath the grate C. In this way heated air will be supplied to the fuel and operate to promote its combustion much better than cold air will.

It is intended that the part of the ash-box which projects in front of the case B shall be covered over by a plate, as shown at *c*.

The air, by circulating through the air-heating chamber, serves to abstract heat from its sides, and thus prevents the fire from destroying the case, or, in other words, renders the case more durable under the action of the fire. Furthermore, the arrangement of the eduction air passage *b* is such as to cause a current of air while passing therefrom to operate to intercept and force back underneath the grate any light ashes, which, falling from the grate, would be likely to be blown or come out of the ash-box.

I am aware that stoves have been made with air-heating chambers and means of discharging into the fuel air heated within such chambers. Therefore I do not claim such as my invention, which has reference to an open fire-place of the kind specified.

What I claim is—

The above-described improved open fire-place, as constructed, with the air-heating chamber arranged about and so as to extend above its grate and the ash pit or box, and open into the latter, in manner and so as to operate substantially as hereinbefore explained.

WALTER BRYENT.

Witnesses:

R. H. EDDY,
F. P. HALE, Jr.