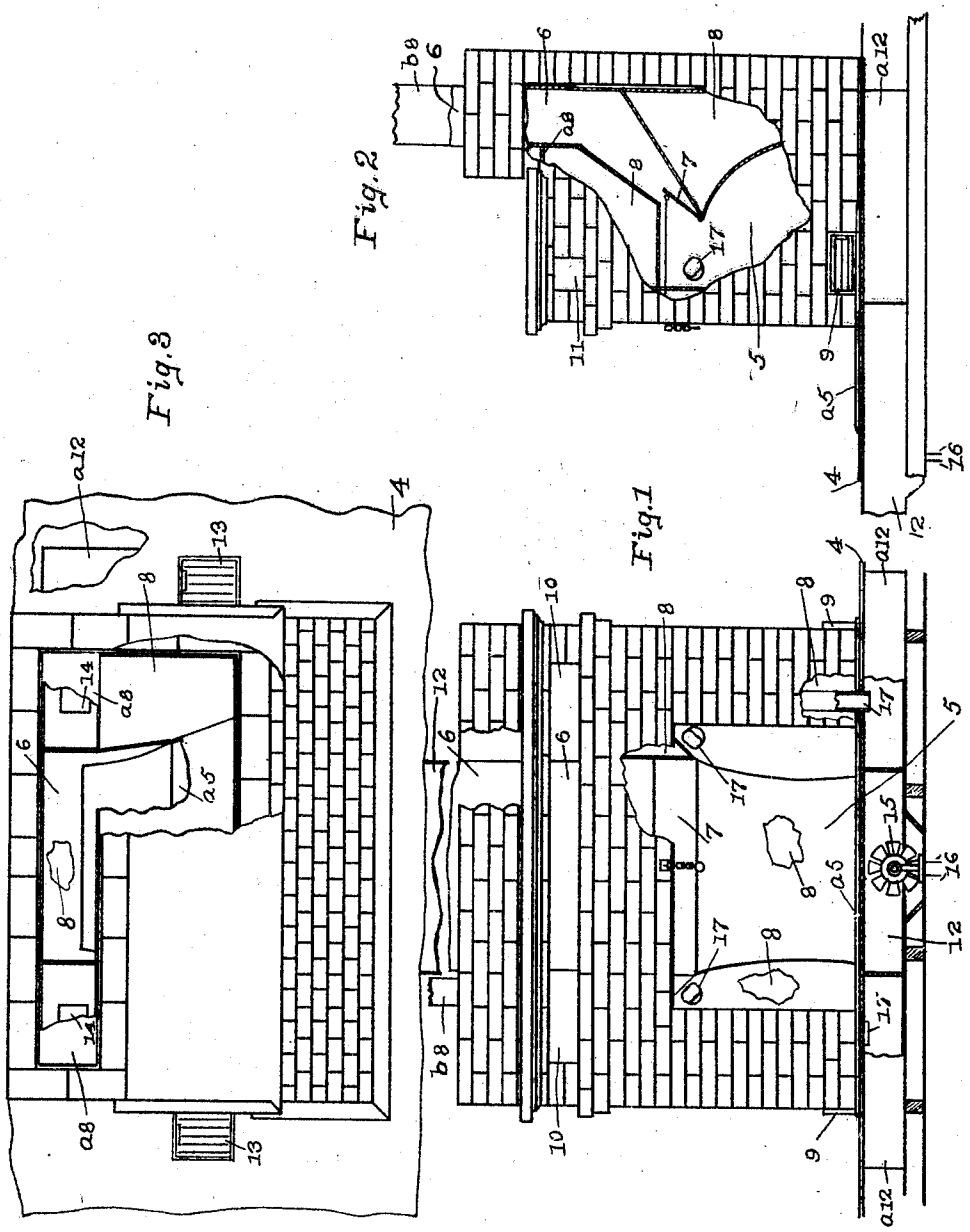
Feb. 17, 1925.

1,526,791

G. JOHNSON

HOT AIR FIREPLACE

Filed Feb. 27, 1924



Gustaf Johnson, INVENTOR.

BY David E. Lain,

ATTORNEY.

Patented Feb. 17, 1925. 1,526,791

UNITED STATES PATENT OFFICE.

GUSTAF JOHNSON, OF BELLINGHAM, WASHINGTON.

HOT-AIR FIREPLACE.

Application filed February 27, 1924. Serial No. 695,400.

To all whom it may concern:

Be it known that I, GUSTAF JOHNSON, a citizen of the United States, and a resident of Bellingham, in the county of Whatcom and State of Washington, have invented a new and useful Hot-Air Fireplace, of which the following is a specification.

My invention relates to improvements in hot-air fireplaces, and one of the objects of my improvements is to provide a fireplace which heats the room by hot-air circulation as well as by direct radiation. Another object of my improvements is to provide a hot-air fireplace which draws cold air from near the floor, either in proximity to the fireplace or from a distance therefrom or both at the same time. Another object of my improvements is to provide a hot-air fire place having hot-chambers embracing the firebox of said fireplace with cold-air inlets and outlets thereto and therefrom. Another object of my improvements is to provide a hot-air fireplace into the upper corners of the firebox of which air is caused to flow in the direction of the smoke flue opening. And other objects of my improvements will appear as the description proceeds.

I attain these objects with the device illustrated in the accompanying sheet of drawings in which Figure 1 is a front elevation of my hot-air fireplace, Fig. 2 is a side elevation of Fig. 1, and Fig. 3 is a plan view of Fig. 1. Similar characters refer to similar parts throughout. Certain parts are broken away to show other parts hidden thereby.

More particularly: The room floor is shown at 4. A fireplace having firebox 5, smoke flue 6 with damper 7 therein is also shown. The walls of said firebox are preferably made of metal, thin cast iron or welded shell steel. The bottom of the firebox a^5 is also of metal. A chamber 8 is enclosed at the sides back and top of firebox 5, and the air therein is heated by contact with the metal walls of said firebox when there is fire therein. Entrance of air to chamber 8 is gained through two openings 9, 9 through the side walls of the fireplace structure near the floor. These openings are closable by louvered registers. Exit from chamber 8 is had through openings 10 and 11 through the fireplace structure beneath the shelf of the same, and also through hot-air pipe b^8 adapted to enter an upper room, not shown, and closable at its exit therein by a louvered register, not shown. An air conduit 12 communicates with chamber 8 through holes 14, 14, shown in Fig. 3. This conduit is intended to lead from a distant part of the room in which the fireplace is located or from another communicating room or rooms. It extends beneath the bottom a^5 of the firebox from which it receives heat. It is also widened at a^{12} and has entrance holes 13, 13 through floor 4 near each side of the fireplace structure. Holes 13 are covered by louvered registers. Electric fan 15 with connections 16 is installed in conduit 12 and, when desired, is used to enforce a circulation therein from its more or less distant inlets through holes 14 and into chamber 8. When fan 15 is operated it is desirable to close the registers over holes 13. The withdrawal of air from near the floor at distant points from the fireplace draws hot air from the fireplace to these distant points. Two air ducts 17, 17 connect with conduit 12 and enter the side walls of the firebox in front of damper 7 toward which they are inclined. Air passes upward through these pipes 17 and leaves the same directed toward the smoke flue entrance. The rearward movement of air at these angles prevents the outward movement of smoke which often occurs at these places. A fire in firebox 5 heats the metal walls thereof, as stated, and causes the air in chamber 8 and in the rear of conduit 12 to be heated and move upward and out of holes 10 and 11. Said heated air is also caused to move upward in conduit b^8 when the louvered register over the upper end of the same, which is not shown, is open. This heated air enters the room in which the fireplace is located, is drawn to other rooms, if conduit 12 leads therefrom, and is conducted to rooms above when desired. When it is desired to confine the air entering chamber 8 to that supplied through conduit 12 the registers covering holes 9 are closed.

In practice I have found that a fireplace equipped as described can be an efficient producer of heat the destribution of which is under control.

Having thus disclosed my invention, what I claim as new and desire to secure by Letters Patent is,—

In a hot-air fireplace in combination, a metal open-front firebox having a smoke flue leading upward therefrom, a chamber beneath said firebox, air conduits leading into and from said chamber, and two air ducts leading from said chamber beneath said firebox through the side walls of said firebox near their top and directed toward said smoke flue whereby a current of air is directed into said smoke flue from said chamber beneath said firebox across the upper corners of said firebox.

GUSTAF JOHNSON.