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C. UHRSTROM

COMBINATION FIREPLACE AND FURNACE

Filed April 12, 1923

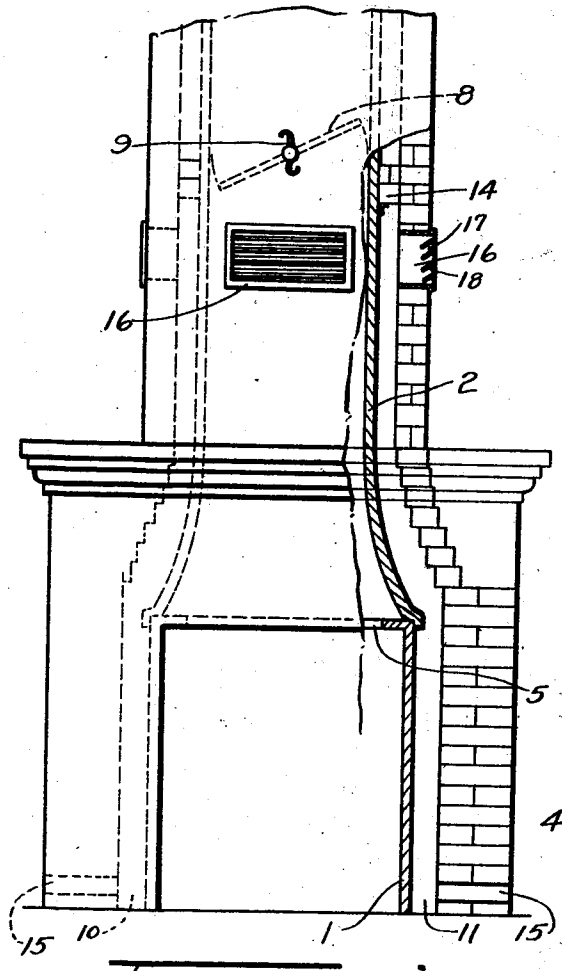


FIG. 1

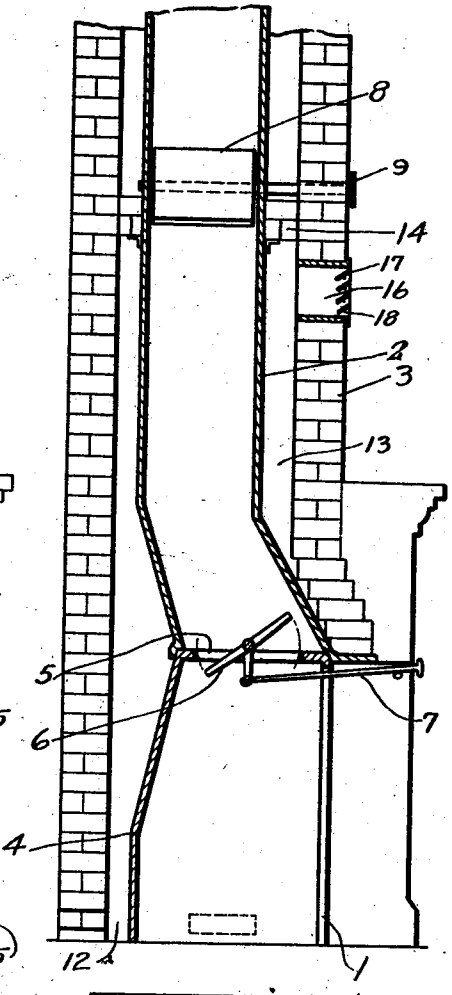


FIG. 2

INVENTOR

Christian Uhrstrom

Harry Bowen

ATTORNEY

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CHRISTIAN UHRSTROM, OF SEATTLE, WASHINGTON.

COMBINATION FIREPLACE AND FURNACE.

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To all whom it may concern:

Be it known that I, CHRISTIAN UHRSTROM, a citizen of the United States, residing at Seattle, county of King, and State of Washington, have invented a new and useful Combination Fireplace and Furnace; and I do hereby declare that the following is a full, clear, and exact specification, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention is a fireplace having an inner lining with air passages between the lining and the walls and openings through the walls to the air passages at both their lower and upper ends.

The object of the invention is to provide a means for utilizing the heat of a fireplace that normally goes up the chimney.

Another object of the invention is to provide a lining for a fireplace which will leave air passages around it.

And a further object of the invention is to provide a fireplace having an inner lining with a means for admitting cold air to the passages around the lining at the bottom and for permitting the heated air to pass out of the upper ends of the passages.

With these ends in view the invention embodies a fireplace having an inner casing, passages for air between the casing and the exterior walls, and openings at the upper and lower ends of the passages which extend through the exterior walls.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings, wherein:—

Figure 1 is a front elevation with part broken away.

Figure 2 is a cross section.

In the drawings I have shown my fireplace as it would be constructed, wherein, numeral 1 indicates the inner casing at the base, numeral 2 the upper section of the inner casing, and numeral 3 the exterior walls.

The lower section 1 of the inner casing may be made as shown in Figures 1 and 2 of a rectangular shaped casting being open at the top and bottom and at the front side. The back of the section is bent inward from a point 4 to the top which will form a baffle to throw heat out of the front of the fireplace. The opening 5 in the upper end of the casing 1 may be made as shown in Figures 1 and 2 or may be made in any desired shape, and may have a damper 6 in it which may be operated by a rod 7 from the front of the fireplace. However, it is understood that this damper may be omitted as the draft may be regulated from a damper above. The upper section 2 may be made to fit over the top of the lower section and may be of a rectangular shape as shown or of any desired shape. It may have a damper 8 in it which may be turned by a handle 9 on the outside of the exterior wall.

A brick fireplace may be constructed around the casing leaving air passages 10 and 11 on the sides, 12 at the rear, and 13 above the front. These passages may be of any suitable size or shape and may extend upward to a point adjacent the ceiling of the room or they may extend upward into the second floor if desired. In the design shown I have shown a horizontal partition 14 around the casing inside of the exterior wall which forms a stop for the air passage. However, it is understood that this partition may be in the form of a damper or may be omitted if it is desired. At the lower edges of the side walls are openings 15 through which cold air may be omitted to the bottoms of the air passages and below the partition 14 are openings or ventilators 16 through which the heated air may pass to the room. The veins 17 in the opening 16 may be pivotally mounted on pins 18 so that the sizes of the openings may be adjusted.

It is understood that changes may be made in the construction without departing from the spirit of the invention. One of which changes may be in the design of the casing as it is understood that this may be made of any suitable size or shape and may be made in one piece instead of separating it into the top and lower sections or may be made in as many sections as may be desired. Another change may be in the location of the openings for admitting air to and from the air passages. And still another change may be in the location of the damper.

The construction will be readily understood from the foregoing description. To use the device it may be installed in a fireplace as shown in Figures 1 and 2 and it may be seen that as the fire is started in the lower section 1 the walls of the casing will become heated and air in the passages will move upward and out of the openings 16 at

the upper end of the passages. At the same time cold air will be admitted to the lower ends of the passages. It will be seen that with a casing of this type constructed in a fireplace the usual amount of heat that ordinarily passes out of the front of the fireplace will pass out in the usual manner and the heat that is usually lost by permitting it to escape up the chimney will heat the walls of the interior casing and then the air surrounding the casing will become heated. This heated air will pass upward in the air passages and as it approaches the upper ends of the air passages its temperature will be increased so that when it passes into the room through the opening 16 it will be very hot so that the room may be thoroughly heated by the fire place. It is commonly known that a fireplace produces very little heat as practically all of the heat units pass up the chimney, whereas, by forming air passages around the flue these heat units may be arrested and utilized to heat the room.

Having thus fully described the invention what I claim as new and desire to secure by Letters Patent, is:—

In an open fireplace, a firebox having the front and bottom open, the sides parallel, and the back inclined towards the front from a point about one-third of the distance from the base; a damper pivotally mounted in an opening in the top of said firebox, a bar for operating said damper from the front of the fireplace, a flue with its lower end forwardly inclined which rests upon the top of the firebox, a damper in said flue at a point somewhat above the firebox, said damper being provided with means for operating it from a remote point, said flue being provided with an outwardly extending flange at its lower end to support the fireplace wall over the opening, an air space around said flue and firebox extending for a considerable distance up the flue, cold air vents opening to the bottom of said air space, and outlet vents with adjustable shutters in them in the upper part of said air space.

CHRISTIAN UHRSTROM.