May 15, 1928. 1,670,212

J. RICHTER

FIREPLACE

Filed June 13, 1925

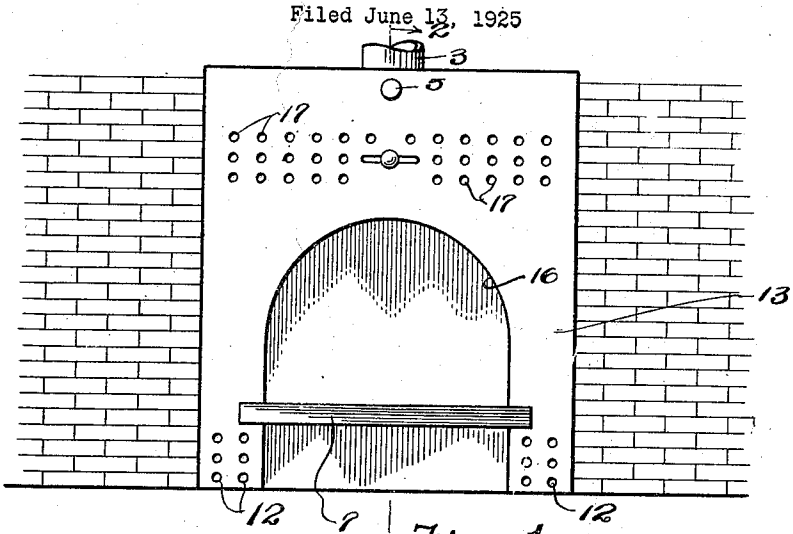


Fig. 1.

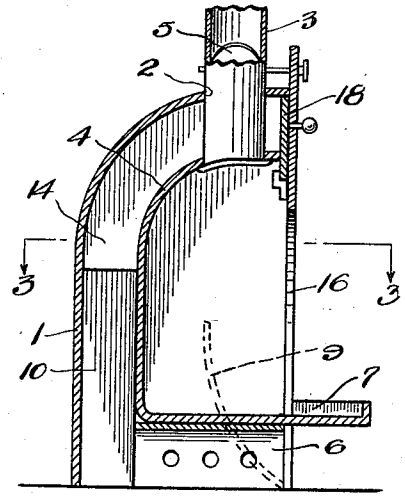


Fig. 2.

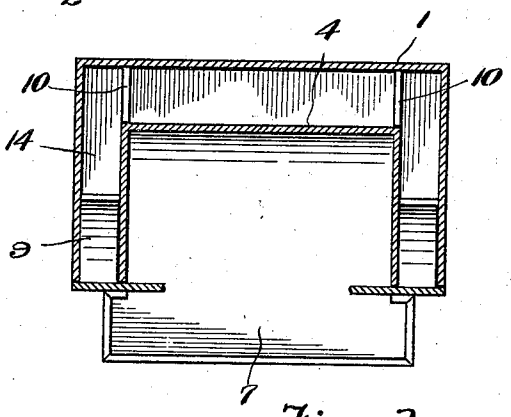


Fig. 3.

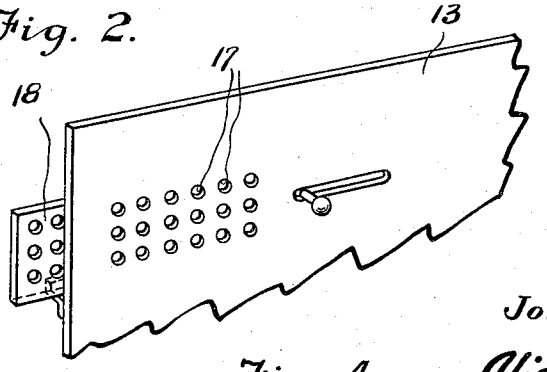


Fig. 4.

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WITNESS:

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UNITED STATES PATENT OFFICE.

JOHN RICHTER, OF STRATFORD, NEW JERSEY.

FIREPLACE.

Application filed June 13, 1925. Serial No. 36,902.

This invention relates to open fire-place structures and more particularly to a complete fire-place unit which may be placed in the built-in types of fire-places in dwellings or the like, and which will render efficient and effective service in heating the room in which it is placed, without in any way detracting from the artistic appearance, sentimental value, or other desirable features of the open fire-place.

More specifically, the invention comprises the provision of a fire-place unit structure which may be practically all-cast and which will take the cold air from close to the floor of the room and pass it upwardly through a suitable heating chamber delivering it from the top of the heating chamber of the fire-place heated for the purpose of heating the room.

Other objects of the invention will appear in the following detail description and in the accompanying drawings wherein:

Figure 1 is a front elevation of the improved fire-place.

Figure 2 is a vertical section through the improved fire-place taken on the line 2—2 of Figure 1.

Figure 3 is a horizontal section through the fire-place taken on the line 3—3 of Figure 2.

Figure 4 is a fragmentary perspective view of the slidable damper structure.

Referring more particularly to the drawings, the improved fire-place comprises the outer shell 1 which is preferably formed of any suitable metal and is shaped to properly fit within standard sizes and shapes of open fire-places as built-in dwellings or analogous buildings. The outer shell 1 is provided with a central flue opening 2 through which the pipe 3 extends. The pipe 3 is suitably attached to the rounded top of the inner shell 4 of the fire-place structure and it has a butterfly valve or damper 5 therein of approved construction. The inner shell 4 is supported above the floor or bottom of the fire-place opening by a suitable support 6 and it has a forwardly projecting hearth extension on its bottom 7. Andirons, gas logs, or analogous structures may be supported upon the bottom 7 of the inner shell 4. The inner shell 4 is held in spaced relation to the inner surface of the outer shell 1 by suitable arcuate air guiding plates 9 which are attached to the outer surface of the sides of the inner shell 4, and by back spacing plates 10 which project rearwardly from the back of the inner shell 4 and engage the outer shell 1. The spacing air guides 9 are arcuate and curve upwardly and inwardly from the base at the front for guiding air which passes through the openings 12 in the lower corners of the front 13 upwardly through the air heating space 14 which is formed between the shells 1 and 4.

The front plate 13 may be made in any artistic design and it forms a closure or cover for the air heating space 14 as well as for the front edges of the shells 1 and 2, presenting a neat and artistic appearance. It is to be understood that any suitable design may be carried out in the front plate 13 without departing from the spirit of this invention and it is also understood that the front plate is provided with a suitable central opening 16 which permits the fire to be visible thereby preventing any detracting from the pleasing appearance of the fire-place. The front plate 13 is provided with a plurality of openings 17 near its upper edge, which openings may be closed by a slidable damper 18 and these openings 17 permit the passage of the heated air out of the air heating chamber 14 into the room in which the fire-place is positioned.

From the foregoing description, taken in connection with the accompanying drawings, it will be apparent that a well known and tested theory of heating is employed wherein the cold air is taken from close to the floor of the room and drawn into the heating chamber and passed out of the heating chamber at the top, and thereby causing a circulation of air through the heating chamber 14 and permitting practical use of the fire-place for the purpose of heating the room in which it is located.

It is, of course, to be understood, that the invention may be constructed in various other manners and the parts associated in different relations, and therefore, I do not desire to be limited in any manner, except as set forth in the claim hereunto appended.

What I claim is:

In a fire place structure the combination with a front plate provided with an arch opening, of inner and outer casings with the upper portions of their rear walls concentrically curved, said casings having their rear walls with their curved portions and the side walls spaced providing an air heating chamber between the inner and outer

casings, the air heating chamber at points where its side and rear portions adjoin having upstanding plates terminating adjacent where the curved portion of the air heating chamber originates, curved air guide plates in the lower parts of the side portions of said air heating chamber, said front plate having perforations at the lower side portions thereof opening into the side parts of the air heating chamber, said front plate having perforations in its upper portion communicating with the air heating chamber, a damper mounted in guides of the front plate for closing the last named perforations, a flue communicating with the interior of the inner casing passing through the heating chamber and through the top wall of the outer casing, said fire place having an opening under the bottom of the outer casing and communicating with the sides and rear of the air heating space to insure a draft circulation.

In testimony whereof I affix my signature.

JOHN RICHTER.