R. P. JENSEN & A. JESSEN.

FIREPLACE.

APPLICATION FILED MAR. 8, 1915.

1,208,974.

Patented Dec. 19, 1916.

2 SHEETS—SHEET 1.

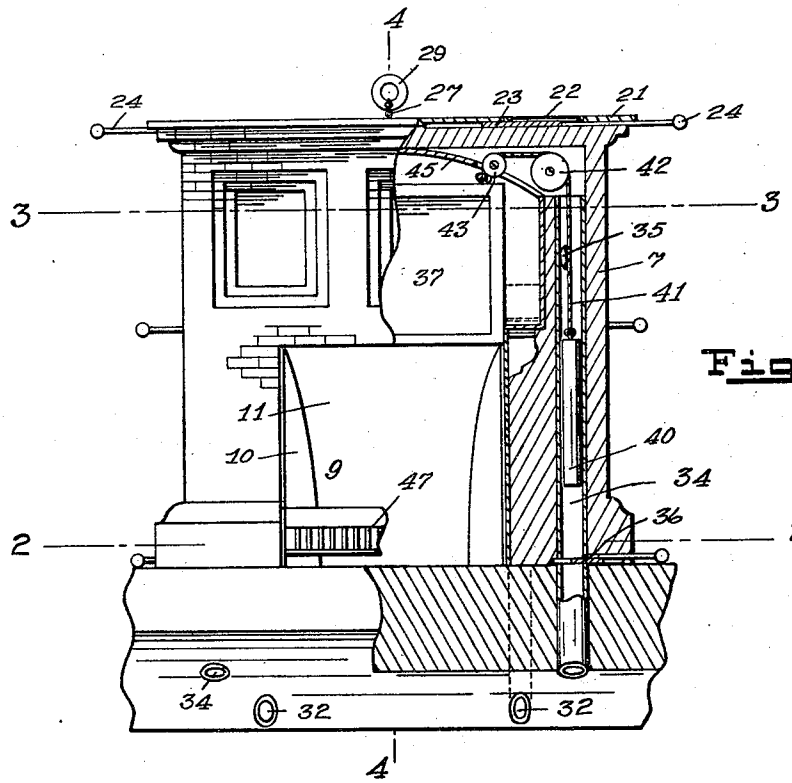


Fig. 1.

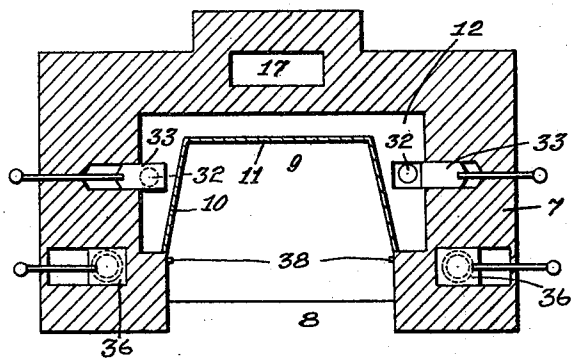


Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 4.

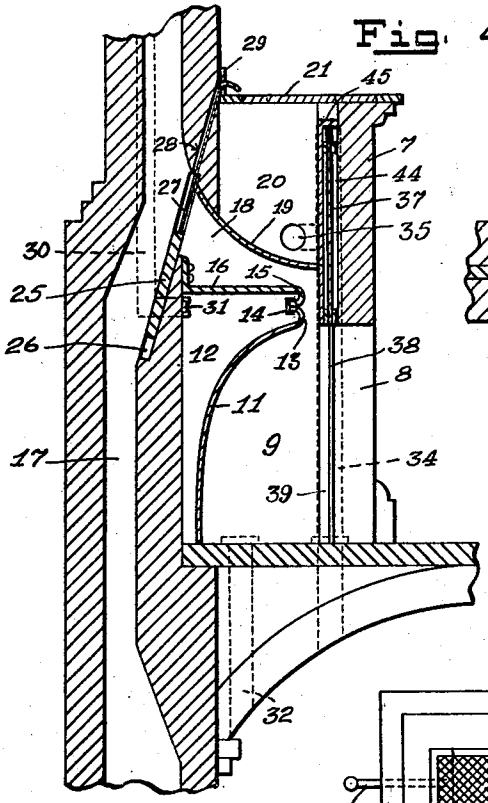


Fig. 5.

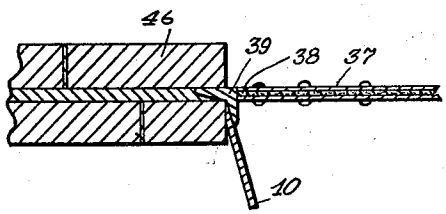
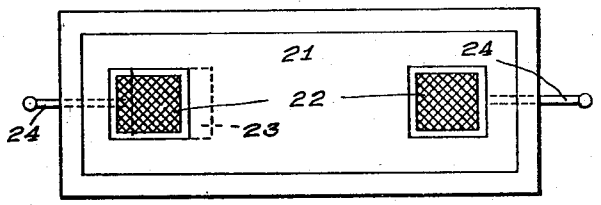


Fig. 6.



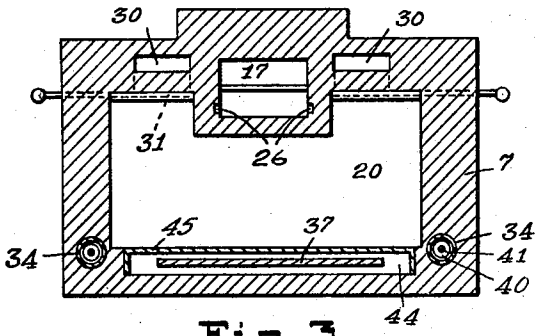


Fig. 3.

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UNITED STATES PATENT OFFICE.

ROPERT P. JENSEN AND ANTON JESSEN, OF SEATTLE, WASHINGTON.

FIREPLACE.

1,208,974. Specification of Letters Patent. Patented Dec. 19, 1916.

Application filed March 8, 1915. Serial No. 12,852.

To all whom it may concern:

Be it known that we, ROPERT P. JENSEN and ANTON JESSEN, citizens of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Fireplaces, of which the following is a specification.

This invention relates to improvements in fireplaces and the object of this improvement is to provide a fireplace of neat and ornamental design that will deliver a large amount of heat in proportion to the amount of fuel consumed.

The invention consists in the novel construction, adaptation and combination of parts, fully described in the following specification, illustrated in the accompanying drawings and finally set forth in the appended claim.

In the drawings, Figure 1 is a view partly in front elevation and partly in vertical section of a fireplace embodying our invention; Fig. 2 is a view in cross section on broken line 2—2 of Fig. 1, of the same; Fig. 3 is a view in cross-section on broken line 3—3 of Fig. 1; Fig. 4 is a view in vertical section on broken line 4—4 of Fig. 1; Fig. 5 is an enlarged fragmentary view in cross-section; and Fig. 6 is a plan view of the top of the mantel piece.

Referring to the drawings throughout which like reference numerals indicate like parts, 7 are the walls of a fireplace, which are preferably formed of brick, and 8 is an opening, of the usual form, provided in the front portion of such walls.

9 is a fire-box or combustion chamber having rearwardly converging side walls 10 and a curved back wall 11 preferably of relatively thin metal and spaced apart from the back wall and side walls 7 of the fire-place to form a hot air compartment 12, as more clearly shown in Figs. 2 and 4.

The top edge of the back wall 11 is bent upwardly to form a U-shaped engaging element 13 that is connected by a channel bar 14 with a similar downwardly bent U-shaped engaging element 15 on a horizontal plate 16, the plate 16 being secured to the rear wall of the fireplace and forming the top of the compartment 12.

The fireplace is provided with a rearwardly disposed flue 17 which communicates with the combustion chamber 9 by a passageway 18, the bottom wall of the passageway 18 being formed by the plate 16, and the top wall of such passageway being formed by a curved plate 19 preferably of metal of good heat-conducting qualities.

The curved plate 19 forms the bottom wall of a hot air chamber 20 located in the top portion of the fireplace and the mantel piece 21 which may preferably be constructed of metal, forms the top wall of such hot-air chamber 20 and is provided with screened openings 22 that may be opened or closed to any desired extent by slidable plates 23 to permit heat to radiate from the chamber 20 into the room in which the fireplace is located, the plates 23 being slidably mounted on the lowermost surface of the mantel-piece 21 and being provided with outwardly projecting handles 24 whereby they may be moved.

The passageway 18 between the flue 17 and the fire-box 9 is adapted to be partially or entirely closed by a vertically movable damper 25 that slides in grooves 26 and is adapted to be lowered by gravity and raised by a flexible connector, as a chain 27 which passes upwardly through an inclined opening 28 in the wall 7 and is fastened by having its links hooked edgewise in a slot (not shown) that is provided in a ring 29 whereby the damper 25 may be supported in any desired position.

Communicating with the upper portion of the hot-air compartment 12 are passageways 30, that are adapted to be opened and closed to the compartment 12 by slidably mounted plates 31, and that lead to rooms distant from the room in which the fireplace is located, and communicating with the lower portion of the compartment 12 are air pipes 32 that lead to a source of supply of fresh air and are adapted to be closed or partly closed by sliding plates 33.

Air pipes 34, more clearly shown in Fig. 1, communicate through openings 35 with the hot air chamber 20 and are provided with sliding plates 36 by which they may be partly or entirely closed, such air pipes being disposed to also communicate with a source of fresh air whereby fresh air may pass upwardly therethrough into the chamber 20 where it may be heated before it passes outwardly through the openings 22 into the room in which the fireplace is located.

A vertically movable door 37 slidably mounted on trackways 38 provided on angle-

bars 39 is adapted to partially close the opening 8 in the front of the fireplace when it is lowered. The weight of the door 37 is supported by counterweights 40 disposed in the pipes 34 and connected with the corners of the door by cables 41 that pass over pulleys 42 and 43 and the door, in its raised position, is disposed within a compartment 44 formed by recessing the front wall of the fireplace and inserting a plate 45, as shown in Fig. 3. The door 37 is preferably formed of two plates of sheet metal, between which are disposed a sheet or plate of non-heat-conducting material, as asbestos, as more clearly illustrated in Fig. 5. The angle-bar 39 may have one leg inserted between the brick 46 of the fireplace wall and the other leg slightly spaced apart from such brick to provide a slot for the reception of the edge of the side walls 10 of the fireplace as shown in Fig. 5. A grate 47, shown only in Fig. 1, may be provided in the combustion chamber 9 if desired.

The operation of the fireplace is as follows: When a fire is kindled in the combustion chamber 9, the air in the compartment 12 and in the chamber 20 is heated. This causes such air to rise and pass outwardly through the openings 22 and the passageways 30 to warm rooms with which such openings and passageways may be connected and causes fresh air to be drawn in through the passageways 32 and the pipes 34 to be warmed in the chambers 12 and 20 before it passes outwardly through the passageways 31 and openings 22, thus insuring good ventilation and plenty of warm air. The front door 37 may be raised to be entirely within the compartment 40, as shown in Fig. 4, or may be lowered any amount to produce a draft or blowing effect on the fire.

Obviously, numerous changes in the details and arrangement of the various parts embodied in this fireplace may be resorted to without departing from the spirit of the invention.

What we claim, is—

A fire place having a combustion chamber and a hot air chamber therein, the combustion chamber formed from a metallic box having rearwardly converging side walls and a forwardly-curved back-wall terminating near the front wall of the fire place and turned backward at its termination to form a U-shaped upper edge, a plate projecting forwardly from the back wall of the fire place above the said curved back wall and having a U-shaped forward edge disposed adjacent the upper edge of the back wall, and a channel bar connecting the adjacent edges of said curved back wall and plate, the said back wall of the box together with said top plate and the rear wall of the fireplace forming the hot air chamber.

Signed at Seattle, Washington, this 1st day of March, 1915.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."