

R. P. GOFF
FIREPLACE.

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1,396,366.

Patented Nov. 8, 1921.

2 SHEETS—SHEET 1.

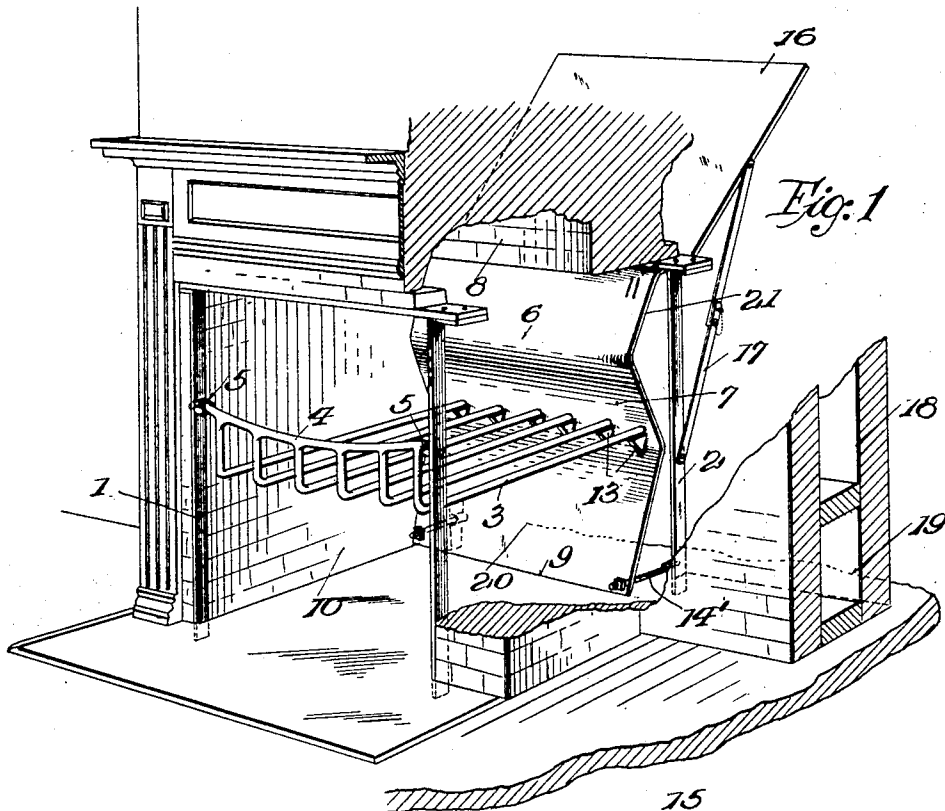
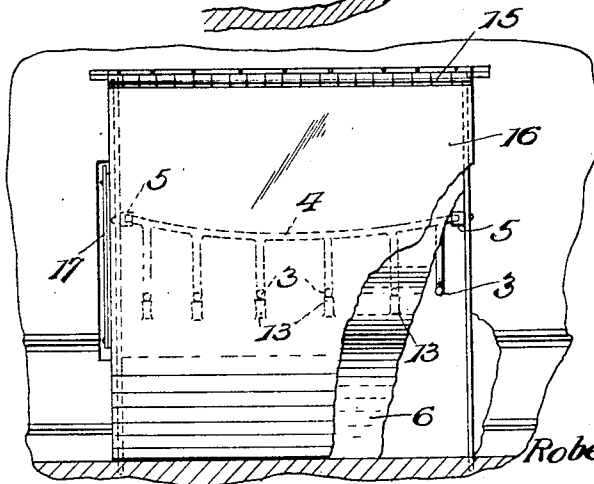


Fig. 3



INVENTOR.

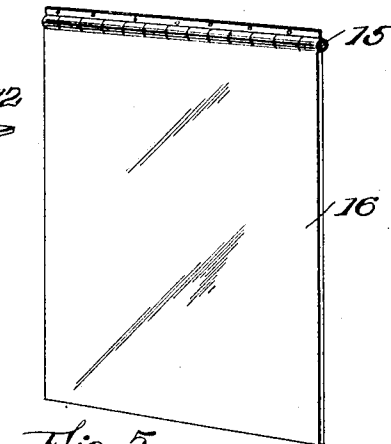
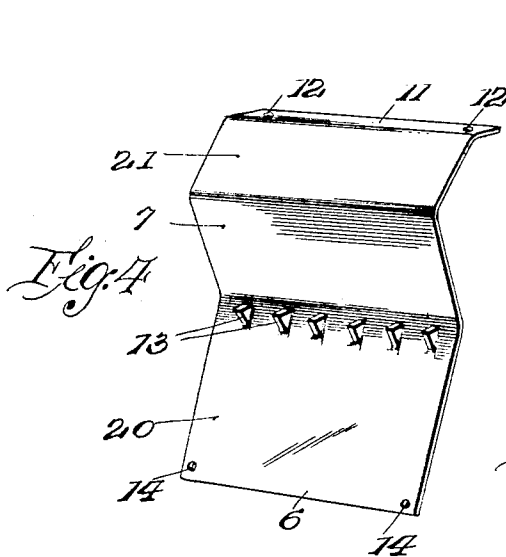
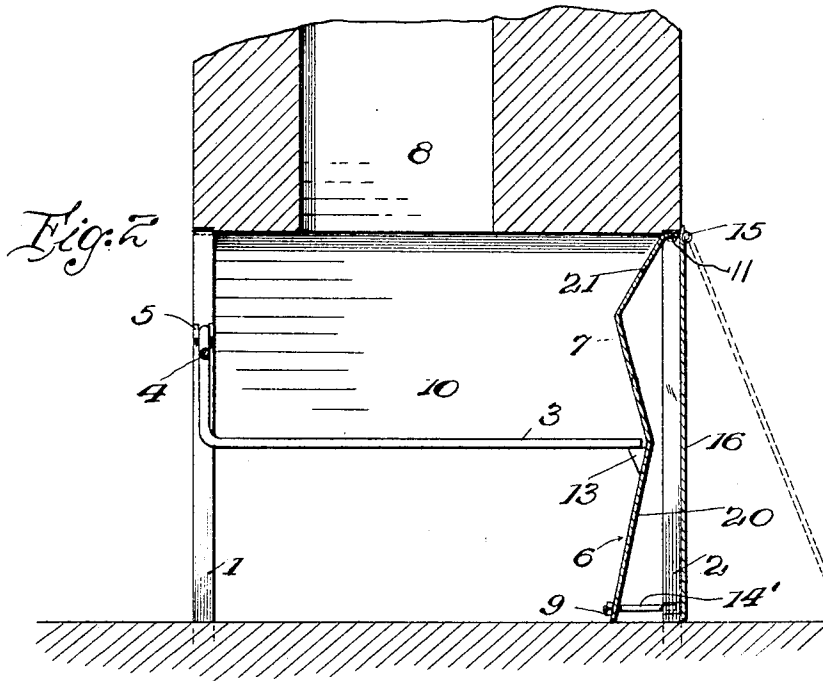
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UNITED STATES PATENT OFFICE.

ROBERT PRESTON GOFF, OF GARY, WEST VIRGINIA.

FIREPLACE.

1,396,366.

Specification of Letters Patent.

Patented Nov. 8, 1921.

Application filed January 10, 1919. Serial No. 270,561.

To all whom it may concern:

Be it known that I, ROBERT P. GOFF, a citizen of the United States, residing at Gary, in the county of McDowell and State of West Virginia, have invented certain new and useful Improvements in Fireplaces, of which the following is a specification.

This invention has for its object the provision of simple, inexpensive and efficient means whereby the heat of a fireplace may be utilized to raise the temperature of one or more rooms in addition to the room in which the fireplace is located. The invention also seeks to provide means for the stated purpose which will permit repairs to be easily made and which may be readily incorporated in buildings already erected as well as in buildings to be erected.

The invention is illustrated in the accompanying drawings and consists in certain novel features which will be particularly pointed out in the claims following the description.

In the drawings:

Figure 1 is a perspective view of a fireplace having my improvements incorporated therein;

Fig. 2 is a vertical section taken longitudinally of the grate bars;

Fig. 3 is a rear elevation;

Figs. 4 and 5 are detail perspective views, respectively, of the back casting of the fireplace and the screen or damper.

In the drawings, the reference numeral 1 indicates the front frame of a fireplace and 2 the back frame which may be of the usual construction and are set into the brick-work or masonry of the chimney in the usual manner. A grate 3 is provided and its bars may be of any desired form and used in any desired number. In the drawings, the front ends of the grate bars are shown as formed integral with a front cross-bar 4 which has its terminals carried by lugs or ears 5 on the front frame 1. The rear ends of the grate bars are supported by the fireback, which is a plate 6 which is preferably of cast-iron and so shaped as to project forwardly above the grate bars, as shown at 7, whereby the air ascending through the fireplace to the chimney flue 8 will be deflected forwardly so that the draft will not be retarded. In other words the upper portion of the fireback 6 is V-shaped in cross section so that the smoke from the fire will be directed forwardly into the flue 8 and so as to allow of the free ex-

pansion and contraction of the fireback. The lower edge 9 of this fireback may be set into or upon the underfire, and its side edges abut the side walls 10 of the fireplace so that ashes and soot will not be permitted to work back of the plate and into the adjoining room. The upper end of the plate 6 has a flange turned sharply backward, as shown at 11, so as to fit closely against the under side of the top bar of the rear frame 2 and in said flange 11 are openings 12 through which securing bolts may be inserted into the top bar of the frame to secure the fireback firmly in position. A row of lugs 13 is provided on the front face of the fireback and the rear ends of the grate bars 3 rest upon and are supported by said lugs. At the lower corners of the fireback are openings 14 to receive bolts 14' which also pass through lugs or other formations on the frame 2 to secure the fireback in place.

The rear frame 2 will be disposed flush with the vertical surface of the partition or wall which adjoins the fireplace chimney and will, consequently, be open to the room adjoining the one in which the fireplace is located. To the top bar of the rear frame 2, I secure by any suitable hinge connection, as shown at 15, a fire board or fender 16 which may be of asbestos alone or of some other material faced with asbestos. This heat insulating screen or fender will normally be in a pendent position so as to cover the frame 2 and thereby prevent light articles such as scraps of paper or feathers from being blown against the back of the plate 6 of the fireplace. The fender or screen may, however, be supported in a raised position, as shown in Fig. 1, by a jointed brace 17 which has its opposite ends secured, respectively, to the frame 2 and a side edge of the screen. When the screen or fender is lowered no heat can escape into the room in which it is located because of the heat insulating material from which the fender is made, but if it be raised, heat will radiate from the fireback so that the room adjoining the fireplace will be raised in temperature, as well as the room in which the fireplace directly opens.

It will be readily noted that my improvements are exceedingly simple and inexpensive. The fireback and fender may be easily applied to any fireplace which is now located in a wall or partition between two rooms and form a chamber between them in which the air will be very thoroughly heated so

that if the fender be raised a supply of warm air will be admitted into the room back of the fireplace. Attention is also invited to the fact that the fireback stands well to the rear in the fire place so that excessive heat rises through the flue 8 and will not pass out and burn the mantle; also when the fender 16 is raised to its oblique position shown in Fig. 1, the mantle in the other room is protected.

In order to increase the efficiency of the device, flues indicated at 18 and 19 in Fig. 1, may be constructed in the chimney wall opening into the sides of the fire place and communicating with said chamber so as to supply fresh air thereto and convey the heated air therefrom into rooms in an upper story of the building. The fire kindled upon the grate 3 will play directly upon the cast-iron fireback 6 and will thoroughly heat the same. It should be thin enough to be readily heated throughout its entire body but at the same time should be heavy enough to withstand rough usage. Upon reference to Figs. 1, 2 and 4, it will be noted that the fireback is inclined upwardly and rearwardly at 20 from the bottom of the fireplace, to the rear end of the grate, and then forwardly at the intermediate portion 7 while the upper portion 21 inclines upwardly and rearwardly from the portion 7 to the flange 11. This construction will permit the plate to expand and contract under changes of temperature without cracking and will also form pockets in which heat may accumulate for subsequent radiation. It will also be noted that the heat will be thrown into the adjoining room at the same level as it enters the room in which the fireplace is located.

Having thus described my invention, what is claimed as new is:

1. The combination with a fire place having openings communicating with adjoining rooms and an exhaust flue in communication

with the fire place, of front and rear frames arranged within the fire place, a heat radiating fire back connected to the rear frame and disposed entirely in rear of the rear wall of the exhaust flue and having its upper portion approximately V-shaped in cross section thereby providing a forwardly extending portion rearwardly of the flue for directing the products of combustion forwardly into the flue and allowing the expansion of the fire back, a grate supported by said front frame and said fire back, a fender plate of heat insulating material horizontally hinged to said rear frame, said fender plate being arranged in spaced relation to said fire back thereby forming an air space, and means for supporting the fender plate in an inclined position.

2. The combination with a fire place having openings communicating with adjoining rooms and an exhaust flue in communication with the fire place, of front and rear frames arranged within the fire place, a heat radiating fire back connected to the rear frame and disposed entirely in rear of the rear wall of the exhaust flue and having its upper portion approximately V-shaped in cross section thereby providing a forwardly extending portion rearwardly of the flue for directing the products of combustion forwardly into the flue and allowing for the expansion of the fire back, a grate supported by said front frame and said fire back, a fender plate of heat insulating material horizontally hinged to said rear frame, said fender plate being arranged in spaced relation to said fire back thereby forming an air space, means for supporting the fender plate in an inclined position and inlet and outlet flues in communication with the air space formed by the fireback and said fender plate whereby a continuous circulation of air is provided in said air space.

In testimony whereof I affix my signature.
ROBERT PRESTON GOFF. [L. s.]