(No Model.) 2 Sheets—Sheet 1.

G. R. SCATES.

FIRE PLACE.

No. 453,734. Patented June 9, 1891.

FIG. 1.

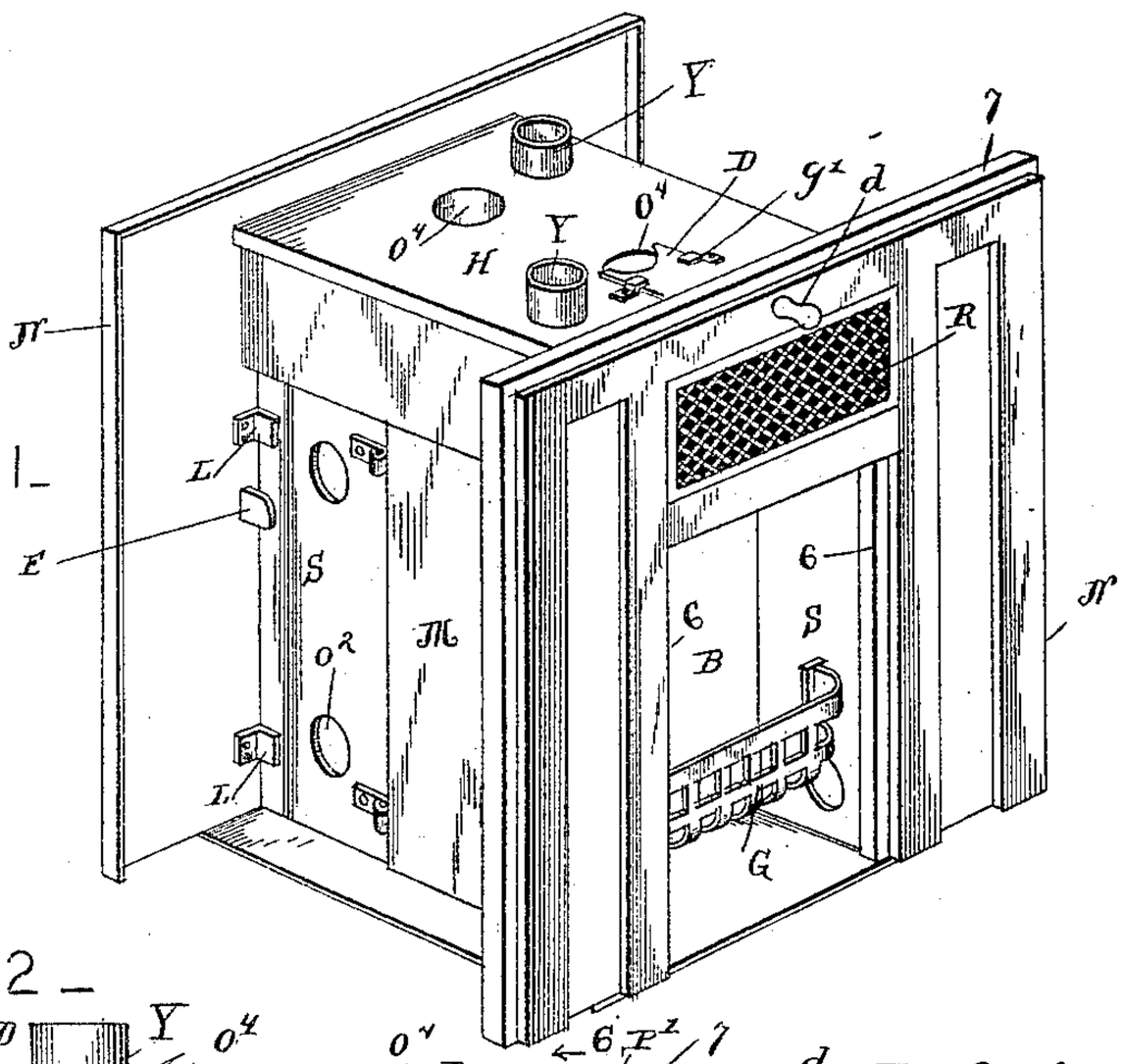


FIG. 2.

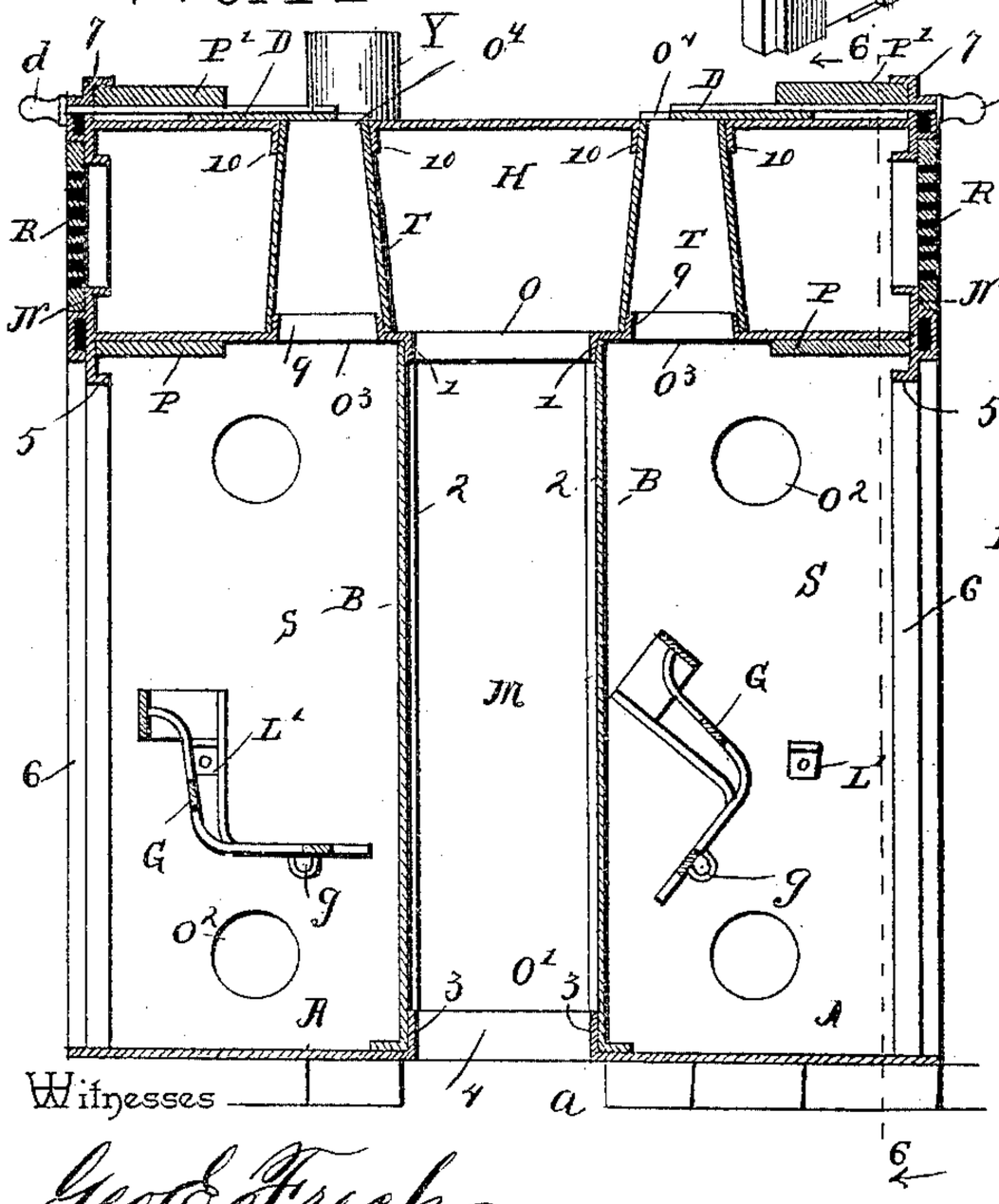
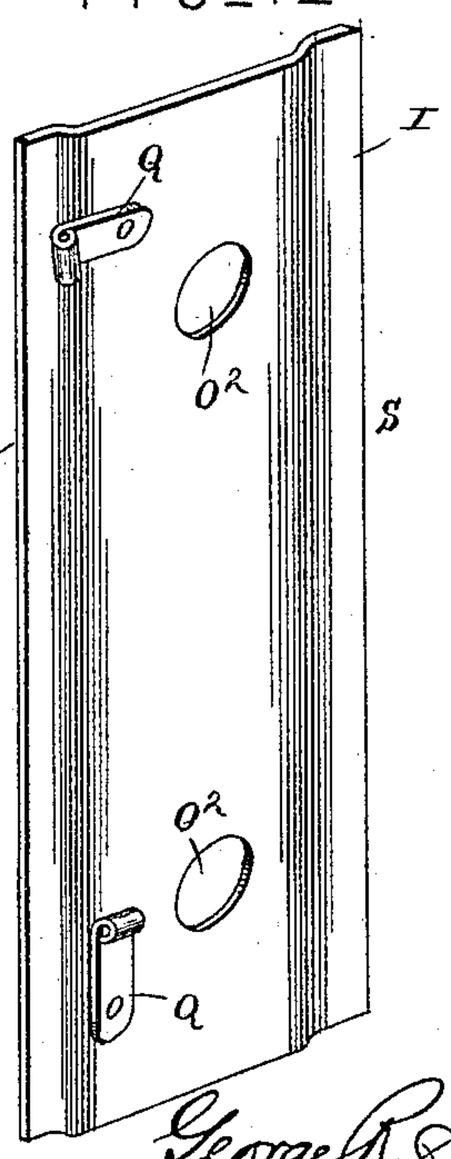


FIG. 4.



Witnesses

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(No Model.) 2 Sheets—Sheet 2.

G. R. SCATES.

FIRE PLACE.

No. 453,734. Patented June 9, 1891.

FIG. 3.

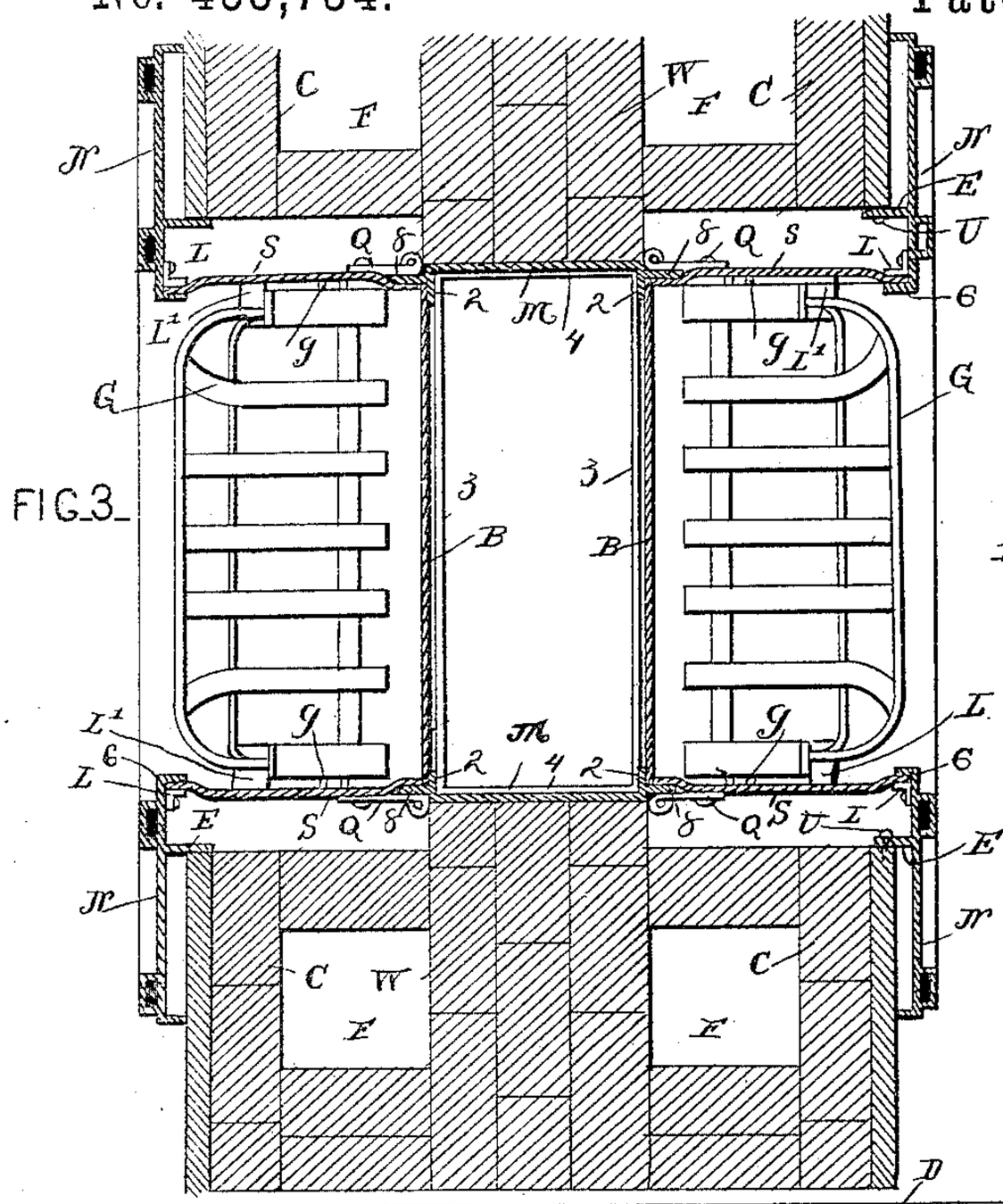


FIG. 5.

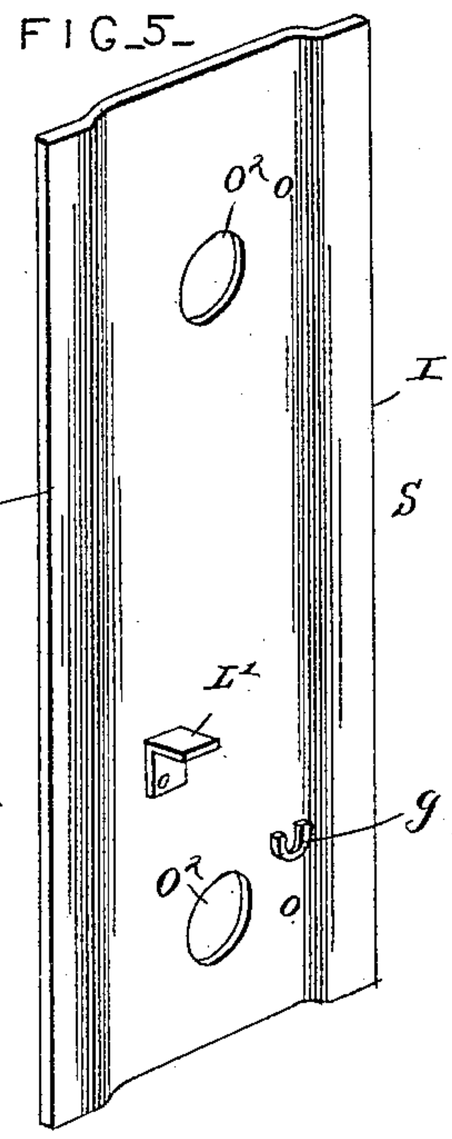
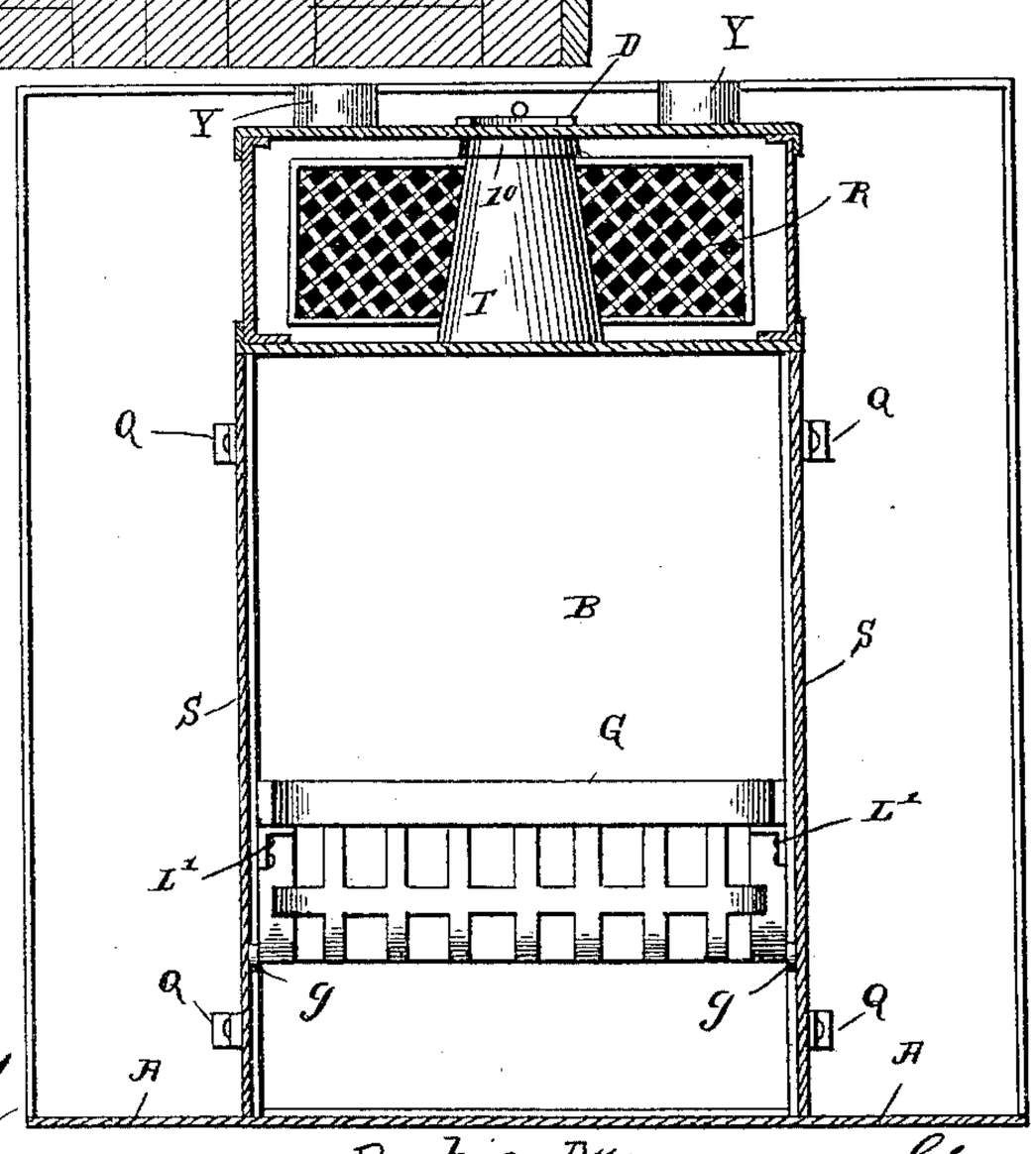


FIG. 6.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE R. SCATES, OF KNOXVILLE, TENNESSEE, ASSIGNOR OF ONE-HALF TO S. H. GEORGE, OF SAME PLACE.

FIRE-PLACE.

SPECIFICATION forming part of Letters Patent No. 453,734, dated June 9, 1891.

Application filed February 4, 1891. Serial No. 380,151. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. SCATES, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented a new and useful Fire-Place, of which the following is a specification.

This invention relates to open fire-places, and is more especially a fire-place of this character made double and adapted to be passed through a partition-wall to afford a fire-place in each of two rooms, the whole being made detachable and removable.

The object of the invention is to effect certain improvements in devices of this character; to which end the invention consists of the details of construction hereinafter fully described and claimed, and as illustrated on the accompanying sheets of drawings, wherein—

Figure 1 is a perspective view of this device complete. Fig. 2 is a central vertical longitudinal section thereof. Fig. 3 is a central horizontal section of the device in position. Fig. 4 is a perspective detail of one of the side plates. Fig. 5 is a similar view of this plate viewed from the other side. Fig. 6 is a vertical cross-section just in rear of one of the front plates, or more particularly on the line 6 6 of Fig. 2.

Referring to the said drawings, the letter W designates the wall, and C C are the chimneys at opposite sides thereof provided with vertical flues F. Heretofore each chimney was provided with a fire-place from which the flues extended upwardly and the wall between such fire-places was solid; but in the present instance I propose to cut in such wall a hole of the same size as the two fire-places, thereby producing a large opening from room to room. Within this opening I propose to locate a detachable and removable fire-place, and perhaps the best manner of describing such fire-place will be in connection with the manner in which I propose to put it in position. Across the top of these fire-place openings are plates P, normally supporting the bricks above them in the chimney, and above these plates I cut an additional hole through the chimney. Supporting the bricks of the latter above such hole are plates P′, which must be put in place, whereas it will be understood that those lettered P are already employed in the fire-places as usually constructed. Between these plates P and P′, I insert a hot-air chamber H, having registers R in its ends which open into the rooms, and its interior constructed in a manner to be hereinafter more fully described, the hot-air chamber being of sufficient size to fit between these plates to fill the opening and to stand at its ends about flush with the walls of the chimneys. I next secure to the edges of the hole cut in the wall proper main plates E, holding them in place by nails or screws driven through them and into mortar between the bricks or into plugs seated in such mortar, and securing their upper ends to the bottom of the chamber H in any suitable manner. Said bottom is provided at its center with a large opening O, depending from the ends of which are vertical flanges 1, and the edges of the main plates M are provided with inwardly-projecting flanges 2.

In Fig. 2 is shown a base-plate A, which rests upon the bricks of the hearths, and this plate has a large opening O′ at its center, beneath which is a fresh-air space *a*, to which, it will be understood, air may be led through a suitable pipe from the outside of the house between the joists, all as is common in heaters. The ends of the opening O′ are provided with upturned transverse flanges 3, and, indeed, the sides of this opening may also be provided with longitudinal flanges 4, behind which the main plates M could have been seated when they were put in place.

B B are the fire-back plates, which are next brought into position and pressed to the rear from each room. It will be understood that the edges of those fire-back plates will rest at the bottom against the flanges 3, at the sides against the flanges 2, and at the top against the flanges 1, whereby these plates will be firmly held against movement to the rear. The front plates N are next brought into position, and as these plates are of the same or complementary construction the description of the insertion of one will suffice for both. Each of these plates extends up one side of the fire-place, across the top and down the other side, and the plate is adapted to be

secured to the wall of the chimney around the fire-place opening in the well-known manner, except that a register R is located above the top of said opening. In the present instance the plate is provided with an ear E, projecting inwardly from each side piece, and through this ear a nail or screw U is passed into the chimney C. By this means the front is held in place.

Across the top of the opening the front is preferably provided with an inwardly-projecting flange 5, which passes under the supporting-plate P, and at each vertical side of the opening is an inwardly-projecting flange 6. Adjacent these flanges are L-shaped lugs L, as best seen in Fig. 1. The upper edge of this front N may have a transverse flange 7, which passes over the uppermost supporting-plate P′, although this is not essential. The side plates S are next brought into position, and as these are of the same or complementary construction a description of one will answer for all four. The plate is preferably provided with an inwardly-turned edge I, the front of which is inserted between the flange 6 and the lugs L at one edge of the front plate N. The rear edge of this side plate S is then pressed outwardly until it strikes a vertical flange 8, which, I should have stated, projects forwardly from the edge of the main plate M.

Upon the outer faces of the side plates S are pivoted buttons Q, which are accessible through openings O^2 in the plates, and after these plates have been put in place the operator reaches through these openings and turns the buttons, so as to engage over the flanges 8, as best seen in Fig. 3. By this means not only are the fire-back pieces B prevented from moving outwardly, but the side plates S are also prevented from dislocation. The hot-air chamber H and the base-plate A may also have flanges, against which the upper and lower ends of these side plates S may rest when in position, although this is not essential. In this manner the several parts of this device are put in place, and it will be obvious that they may be removed when desired by a simple reversal of the operation, all requiring no particular knowledge in any art, and hence all capable of being done by an ordinary mechanic.

The grate G is preferably secured in cup-shaped bearings *g* and rests upon lugs L′, secured to the inner faces of the side plates S, although it will be understood that any preferred form of grate and of its attachment may be employed without departing from the spirit of my invention.

In the bottom of the chamber H are openings O^3, through which pass the products of combustion, and these openings are surrounded by flanges 9. Within the chamber are tapering pipes T, their lower ends surrounding said flanges 9 and their upper ends being surrounded by flanges 10, which are formed around the edges of openings O^4 in the upper side of the chamber.

D are dampers controlled by handles *d*, which extend through the front plate N, the bodies of the dampers moving over the top of the box under guides *g′* thereon, and adjusting the size of the openings O^4 as desired. By this means the draft can be regulated by the operator, as will be readily understood. The fresh air entering the space *a* passes upwardly between the back pieces B, where it is intensely heated, and through the opening O into the chamber H, where it is further heated. From this chamber it may be passed into the rooms in which the grates are located by opening the registers R.

In the top of the chamber H are cylindrical projections Y, which, it will be understood, are to be connected with pipes or flues leading upwardly within the chimneys to registers in rooms overhead, and by this means such rooms can be also heated.

With a fire-place of the above construction it will be seen at once that no smoke or products of combustion can enter the hot-air flues nor the hot-air chambers. At the same time the several parts of this heater are detachably connected, and any part can be replaced when cracked, warped, or worn out by any person at all familiar with this art. The front may be ornamented as desired, the back may have forwardly-projecting flanges at its edges, and other changes in construction may be made without departing from the spirit of my invention.

Although I have not shown it, it will be understood that there may be several projections Y, adapting the device to heat numerous rooms; but the special utility and advantage claimed is that the whole is adapted to be readily inserted in any ordinary fire-place with but slight alterations therein, and the parts can be removed when desired.

What is claimed is—

1. In a double fire-place, the combination, with the wall between two rooms and the chimneys in said rooms, all being provided with a single transverse opening, of a hot-air chamber H, supported by the supporting-plates P at the top of said opening, registers R in the ends of said chamber, projections Y in its top communicating through the hot-air flues with the rooms above, a base-plate A, resting upon the hearths and having an opening O′ beneath the similar opening O in the bottom of the air-chamber and above a cold-air chamber *a*, main side plates M, secured to the sides of the opening through the wall and standing across the edges of said openings O and O′, fire-back pieces B, standing across the ends of said openings and forming a vertical air-passage, side plates S beneath the sides of said hot-air chamber and detachably-connected to the edges of said main plates, a grate G in each fire-place thus formed, front plates N, tubular pipes T through said hot-air chamber above each fire-place and communicating with a flue in each chimney, a damper D in each of said pipes,

and a handle *d* therefor extending through said front plate, substantially as described.

2. In a double fire-place, the combination, with the wall between two rooms and the chimneys in said rooms, all being provided with a single transverse opening, of a hot-air chamber H, supported by supporting-plates P at the top of said opening, registers R in the ends of said chamber, projections Y in its top communicating through the hot-air flues with the rooms above, the bottom of said hot-air chamber having an opening O above a cold-air chamber *a*, located between the two hearths, main plates M, secured to the sides through the opening of the wall beneath said opening O, fire-back pieces B, connecting the edges of said main plates and thereby forming a vertical air-passage, side plates S at the sides of said fire-back pieces, detachably connected to the edges of said main plates, a grate G in each fire-place thus formed, front plates N, tubular pipes T through said hot-air chamber above the fire-places, each communicating with a flue in its chimney, a damper D in each of said pipes, and a handle *d* therefor extending through the said front plate, substantially as described.

3. In a double fire-place, the combination, with the wall between two rooms and the chimneys in said rooms, all being provided with a single transverse opening, of a hot-air chamber H, supported by supporting-plates P at the top of said opening, registers R in the ends of said chamber, its top being provided with holes communicating through hot-air flues with the rooms above, and its bottom at the center being provided with a cold-air opening O, fire-back pieces B, standing across said opening in the wall and beneath the ends of said opening O in the hot-air chamber, thus forming the vertical air-passage between them, side plates S at the sides of said fire-back pieces, a grate G in each fire-place thus formed, front plates N, tubular pipes T through said hot-air chamber above the fire-places, each communicating with a flue in its chimney, and a damper in each of said pipes, substantially as described.

4. In a double fire-place, the combination, with the wall between two rooms and the chimneys in said rooms, all being provided with a single transverse opening, of a hot-air chamber H, supported by the supporting-plates P at the top of said opening, registers R in the ends of said chamber, the latter being provided with a cold-air opening O in its bottom, and with holes communicating through hot-air flues with the rooms above, a fire-place beneath each end of the hot-air chamber, each fire-place comprising a vertical fire-back B, removable side plates S, and a grate between said plates, the tubular pipes T through said hot-air chamber above the fire-places and communicating with flues in the chimneys, and dampers in each of said pipes, substantially as described.

5. In a double fire-place, the combination, with the wall between two rooms and the chimneys in said rooms, all being provided with a single transverse opening, of brick-supporting plates P and P′ across the ends of said opening near its top, a hot-air chamber H, removably inserted between said plates and provided with holes communicating through hot-air flues with the rooms above and also with a cold-air opening O, registers R in the ends of said chamber, tubular pipes T through said chamber near its ends, the upper end of each pipe communicating with a flue in its chimney, a damper in each pipe, a fire-place, substantially as described, beneath each end of the chamber, and a front plate of any preferred construction in each room and covering one end of said chamber, as set forth.

6. In a double fire-place, the combination, with the wall between two rooms and the chimneys in said rooms, all being provided with a single transverse opening, of a hot-air chamber, substantially as described, supported at the top of said opening and having smoke-pipes T through it near its ends, main side plates M, secured to the sides of the opening through the wall, removable side plates S beneath said hot-air chamber detachably secured to the edges of said main plates, front plates N, detachably secured to the front edges of said removable side plates, a grate G between each pair of removable side plates, thus forming two fire-places, and a fire-back piece B between said fire-places, as set forth.

7. In a double fire-place, the combination, with the wall between two rooms and the chimneys in said rooms, all being provided with a single transverse opening, of a hot-air chamber, substantially as described, supported at the top of said opening, registers opening into said chamber, said chamber having an opening O in its bottom at the center, a base-plate A, resting upon the hearths and having a central opening O′ beneath that in the chamber and above a cold-air chamber *a*, main side plates M, secured to the sides of the opening through the wall and standing across the edges of said openings O and O′, fire-back pieces B, standing across the ends of said openings and forming a vertical air-passage, side plates S, detachably connected to the edges of said main plates, a grate G in each fire-place thus formed, and smoke-pipes T, leading from said fire-place, as set forth.

8. In a fire-place, the combination, with a grate, side plates at the ends thereof, and a fire-back in rear thereof, of a hot-air chamber above said grate having aligned openings O^3 and O^4, the former provided with an upwardly-projecting flange 9 and the latter with a downwardly-projecting flange 10, a tubular smoke-pipe T within said chamber, its ends respectively standing outside the lower flange and inside the upper, a damper for said pipe, and air inlet and outlet openings in said chamber, substantially as described.

9. In a double fire-place, the combination, with a hot-air chamber H, having an opening O through its bottom surrounded by a depending flange 1, main side plates M at the edges of said opening, said plates having inwardly-projecting flanges 2, and a base-plate A, having an opening O′ below that in the chamber, which opening has flanges 4 at its sides embracing said main plates, and also has flanges 3 across its ends, of removable fire-back pieces B, resting against said flanges 1, 2, and 3, side plates S, detachably connected to said main plates, a grate G between each pair of removable side plates, and a smoke-pipe T, leading from each fire-place thus formed, substantially as described.

10. In a double fire-place, the combination, with a hot-air chamber H, having an opening O through its bottom surrounded by a depending flange 1, and main side plates M at the sides of said opening, said plates having inwardly-projecting flanges 2 and forwardly-projecting vertical flanges 8, of removable fire-back pieces B, resting against said flanges 1 and 2, front plates N, removable side plates S, detachably connected at their front edges to the front plates and their rear edges resting against said vertical flanges 8, buttons Q, pivoted to the outer faces of said side plates and engaging said flanges, a grate G between each pair of removable side plates, and a smoke-pipe T, leading from each fire-place thus formed, substantially as described.

11. In a fire-place, the combination, with a hot-air chamber H, main side plates M, depending from the sides of said chamber and having inwardly-projecting flanges 2 and forwardly-projecting vertical flanges 8, a removable fire-back piece B, resting against said inward flanges, and a front plate N, having an inwardly-projecting flange 6 around its fire-place opening, with lugs L adjacent thereto, of removable side plates S, their front edges detachably seated between said flange and lugs and their rear edges resting inside said vertical flanges, buttons Q, pivoted to the outer faces of said side plates and engaging the vertical flanges, a grate G between the pair of plates, and a smoke-pipe T, leading from the fire-place thus formed, substantially as described.

12. In a fire-place, the combination, with a fire-back B, main side pieces M, having forwardly-projecting vertical flanges 8, and a removable front plate N, detachably connected to the face of the chimney and having an inwardly-projecting flange 6 around its fire-place opening, with lugs L adjacent thereto, of removable side plates S, having openings O^2 through their bodies and provided with inwardly-bent edges I, their front edges being detachably seated between said flange and lugs and their rear edges resting inside said vertical flanges, buttons Q, pivoted to the outer faces of said side plates and engaging the vertical flanges, and a grate G, detachably secured in the fire-place thus formed, substantially as hereinbefore described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

GEORGE R. SCATES.

Witnesses:
N. L. COLLAMER,
E. G. SIGGERS.