

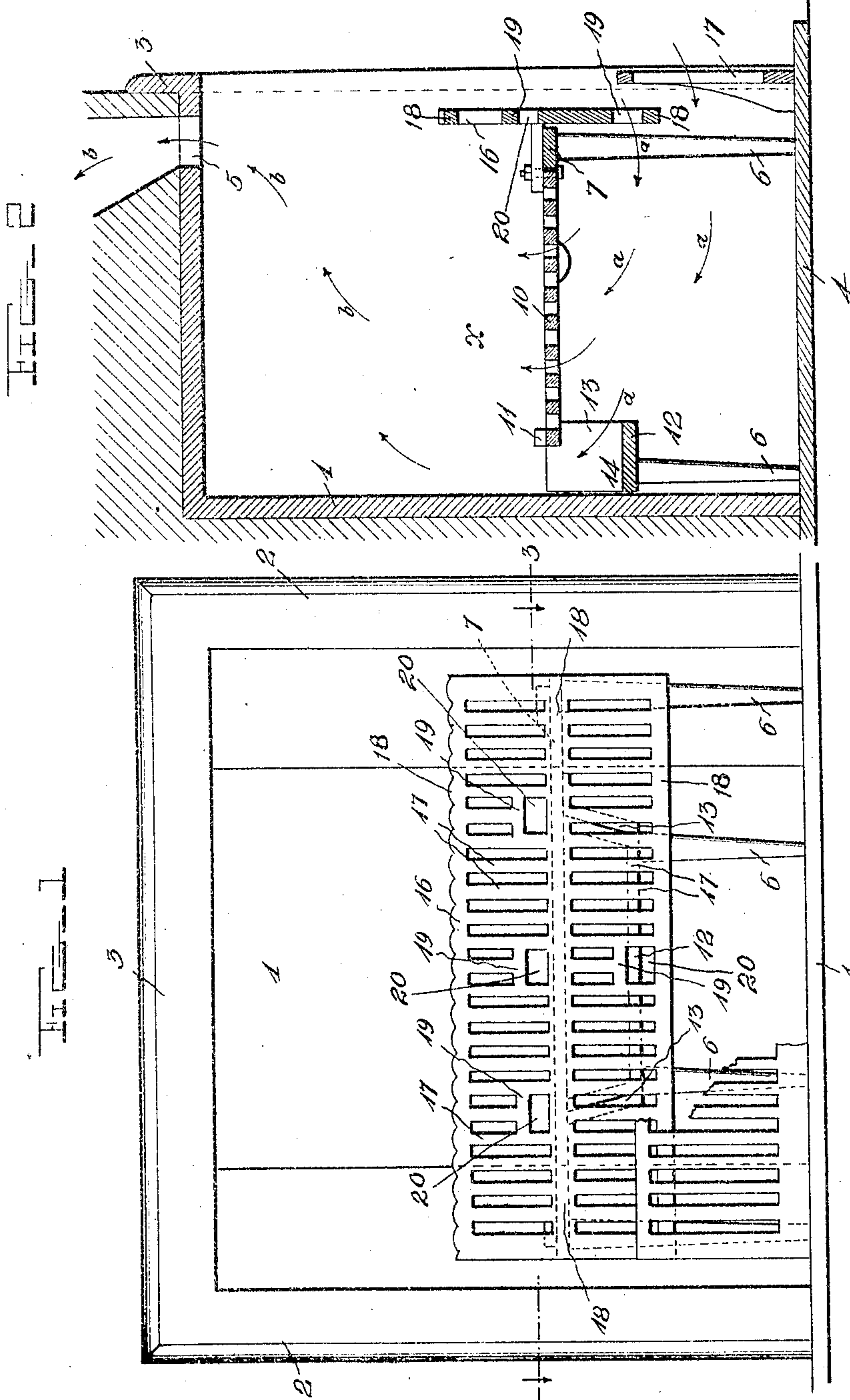
J. S. WOOD.
GRATE.

APPLICATION FILED JAN. 28, 1908.

Patented Feb. 23, 1909.

2 SHEETS—SHEET 1.

913,341.



Witnesses
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Inventor
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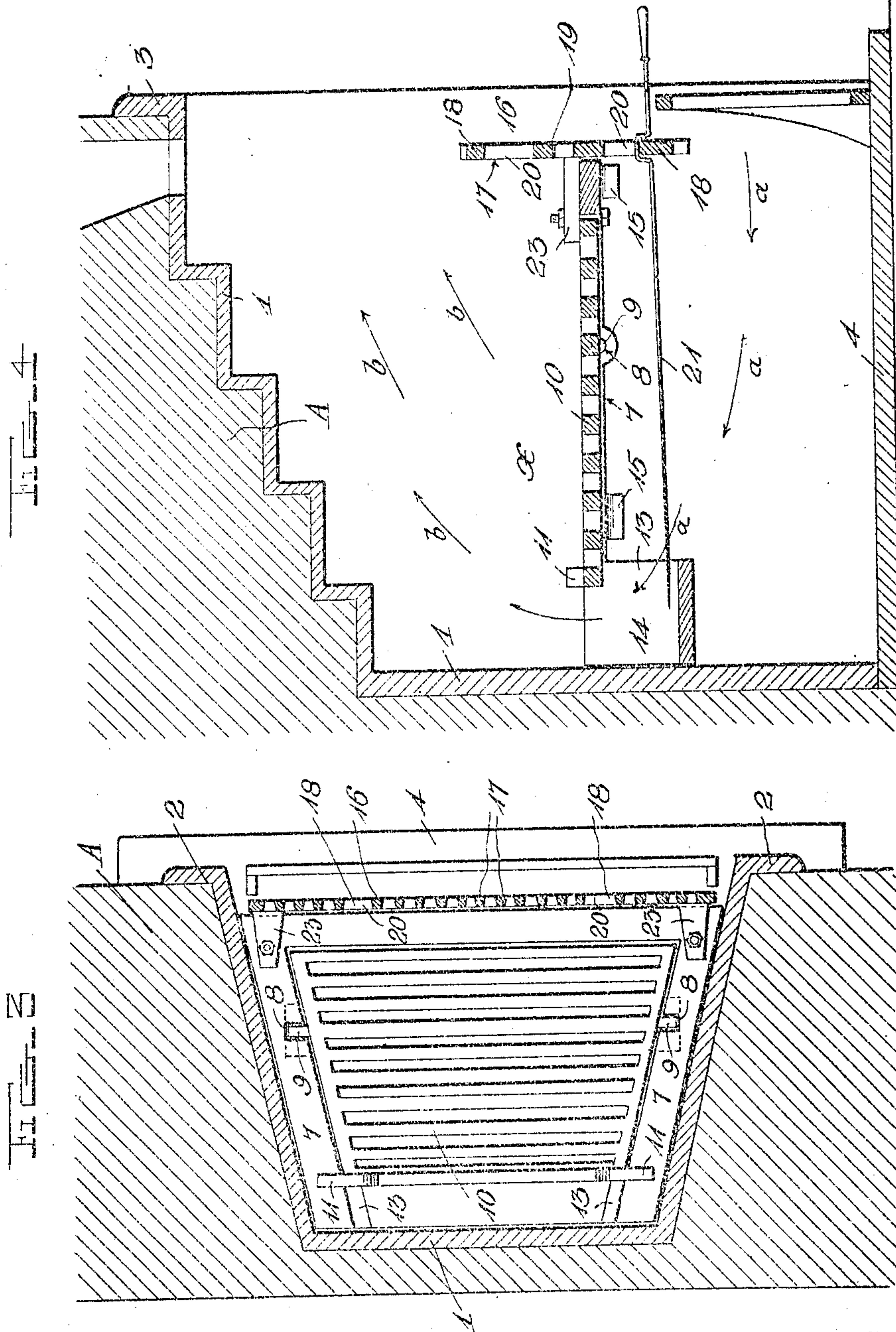
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Witnesses
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UNITED STATES PATENT OFFICE.

JAMES S. WOOD, OF BRISTOL, TENNESSEE.

GRATE.

No. 913,341.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed January 28, 1908. Serial No. 412,965.

To all whom it may concern:

Be it known that I, JAMES S. WOOD, a citizen of the United States, residing at Bristol, in the county of Sullivan and State of Tennessee, have invented certain new and useful Improvements in Grates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to fire grates.

The object of the invention is to provide a device of this character which will be simple in construction, cheap to manufacture and withal neat in appearance.

A further object of the invention is to provide means upon the grate and surrounding the grate which will deflect the fresh air, with its abundance of oxygen, to a point at the back of the grate where combustion takes place. This construction gives increased efficiency and prevents excessive use of fuel. It is therefore more economical than former grates.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described hereinafter and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a front elevation of the device parts being broken away; Fig. 2 is a vertical sectional view thereof; Fig. 3 is a sectional plan view; and Fig. 4 shows a modification.

Referring more particularly to the drawing, 1 represents a casing which is secured in the chimney place, A, in any suitable manner, and is provided with an outstanding flange, 2, upon its vertical sides, and a vertical flange, 3, extending above the top. These flanges are for the purpose of overlapping the brickwork, A, and preventing false draft to the chimney. The casing rests directly upon the hearth, 4, and has an imperforate top extending to a point adjacent the vertical flange, where it is cut away to form a flue-opening, 5.

The grate proper is supported upon legs, 6, and comprises a frame, 7, having recesses as at 8, adjacent the forward end thereof, to receive the laterally projecting studs, 9, of the grate, 10. These studs are positioned on the grate adjacent its forward edge so that the rear part of the grate contains the

most metal, and is, consequently, heavier than the forward part, the grate being thereby unbalanced. To support it in a horizontal position, I provide laterally extending lugs, 11, projecting from its rear end and adapted to rest upon the frame, 7. This construction prevents the grate from dumping in the back and insures a front dump. The rear member, 12, acts in conjunction with the grate proper and the back of the casing to form a flue, 14, which directs the pure air to a point, α , where combustion takes place.

By following the course of the arrows, α , it will be seen that the pure air is carried back to a point of combustion, α , and with the smoke travels as indicated by the arrows, β , the radiation being from the back of the casing, 1, out over the fire proper into the room to be heated.

In the modification shown in Fig. 4, a construction is shown, with lateral lugs, 15, projecting outwardly from the side of the casing, 1, for supporting the grate frame. In this instance, the legs, 6, are dispensed with. Secured to the frame by the lugs, 23, is a front plate 16, composed of a series of vertically arranged bars, 17, and horizontal bars, 18, which form with the intermediate bars, 19, apertures, 20, through the lower end of which a shaker is held to stir up the fire. This shaker is held in place by a U-shaped bend in its body and projects back sufficiently far to reach the flue, 14.

As shown in Fig. 2, the fuel feeds over into the flue, 14, where it may be raked down by the shaker, 21, and as the draft to the fire is from the front to the back, the fuel in the flue, 14, is heated to incandescence and draws oxygen to it much more rapidly than the remainder of the fire. This causes combustion to take place in the back of the grate and the casing at this point to more quickly absorb its full amount of heat and start to throw it off into the room. With the echelon formation of top casing, the heat is also radiated from the back and from the risers in the top directly out into the room.

I have shown an echelon formation of top for the casing 1, in the modification, but it will be understood that I may use any form of casing that may be deemed desirable.

Many modifications may be resorted to in practice without departing from the scope of

the claims, and I contemplate such changes and consider them within the purview of the appended claims.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Having thus described my invention, what I claim as new and desire to secure by Letters-Patent, is:

1. In a device of the class described, a chimney wall having a recess and a flue communicating therewith adjacent the forward side of a chimney wall, a frame, a fuel support carried thereby, a supplemental fuel support integral with the frame and depending therefrom in the rear of said first named support, and a casing surrounding

said frame and seated in the recess formed in said wall and having an opening communicating with the chimney flue. 20

2. In a device of the class described, a frame, a depending fuel support integral with the frame, a front plate having a portion depending from the plane of the frame and having a plurality of apertures, and a shaker passing through one of said apertures and pivotally connected to said front plate and adapted to work in the depending fuel support. 25 30

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES S. WOOD

Witnesses:

JAMES BRADLEY,
R. H. HAMILTON.