

No. 685,864.

Patented Nov. 5, 1901.

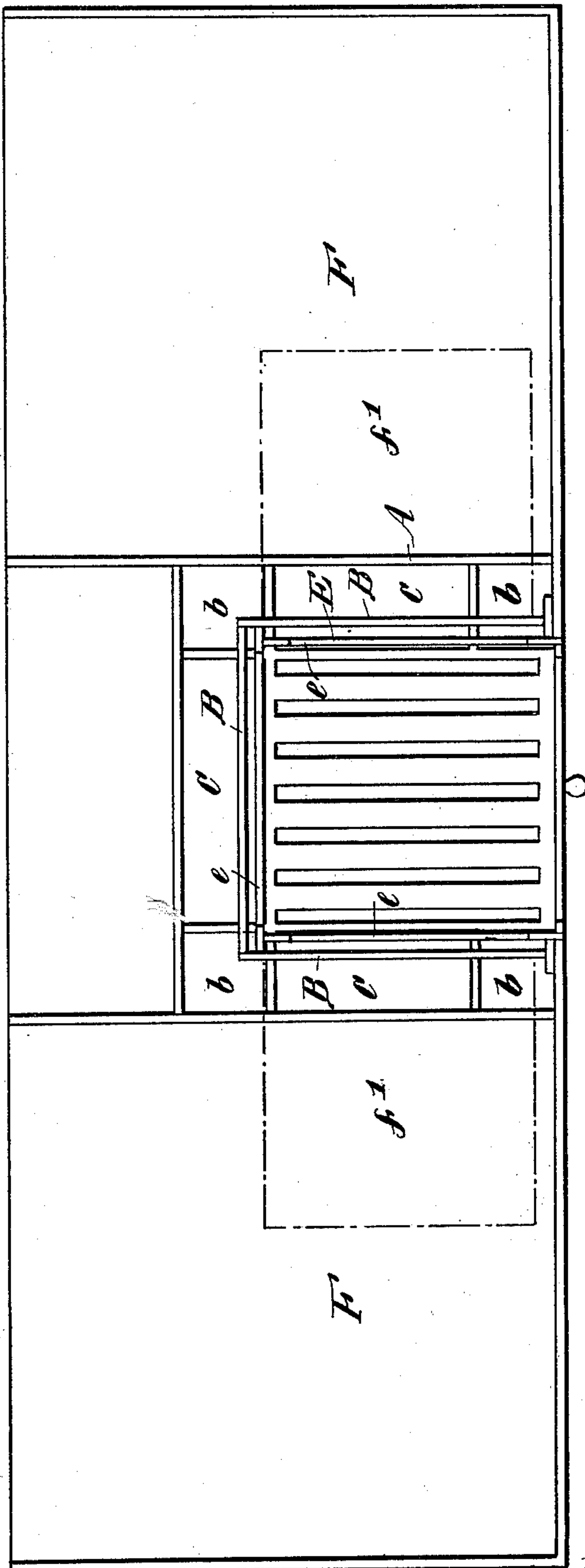
H. PERFETT.
SMOKE CONSUMING STOVE.

(Application filed Oct. 5, 1900.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.



Witnesses.
William James Cox.
Frank William Pattison.

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By his Attorney.
Geo. H. Rayner

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Fig. 3.

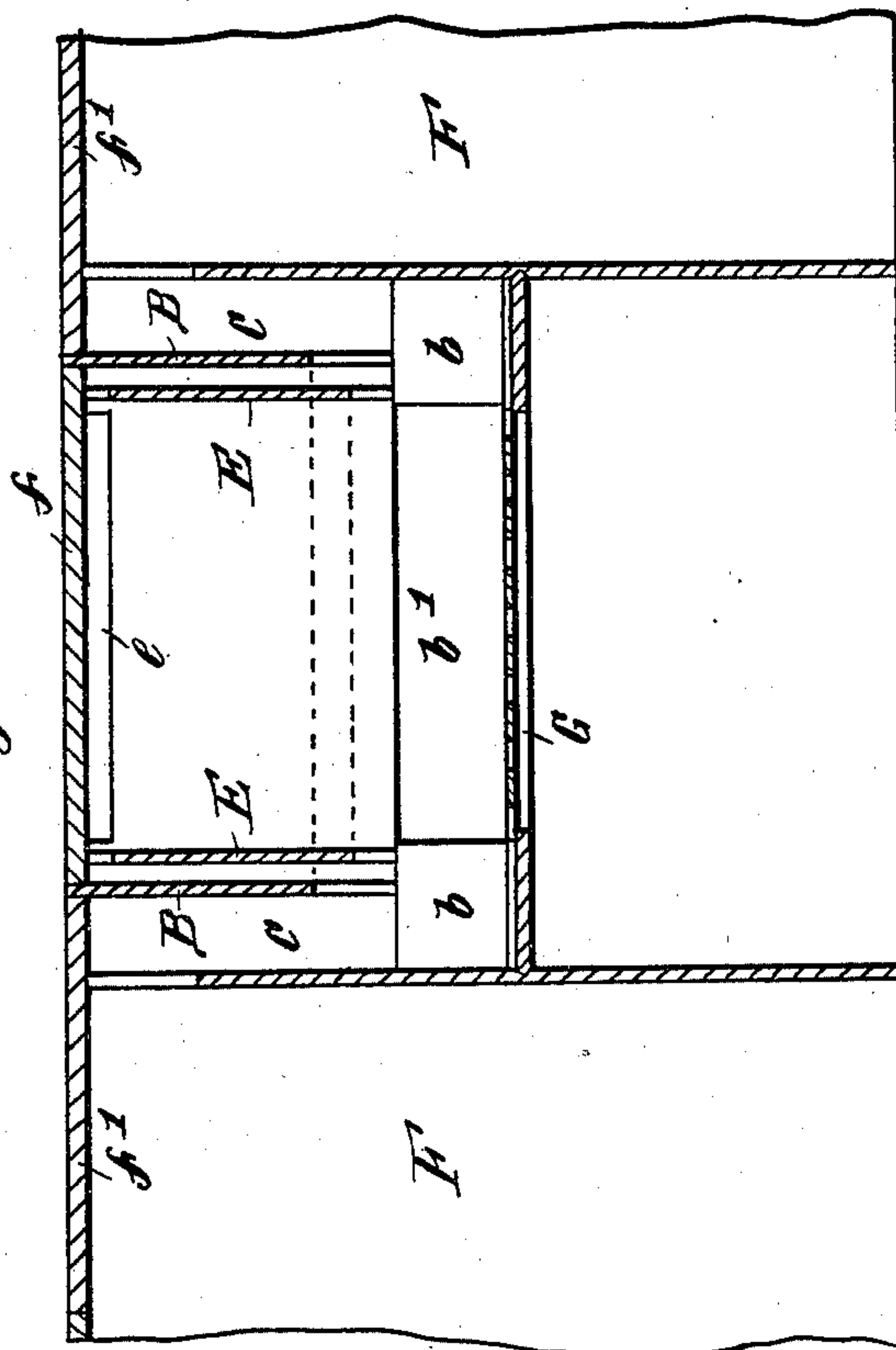
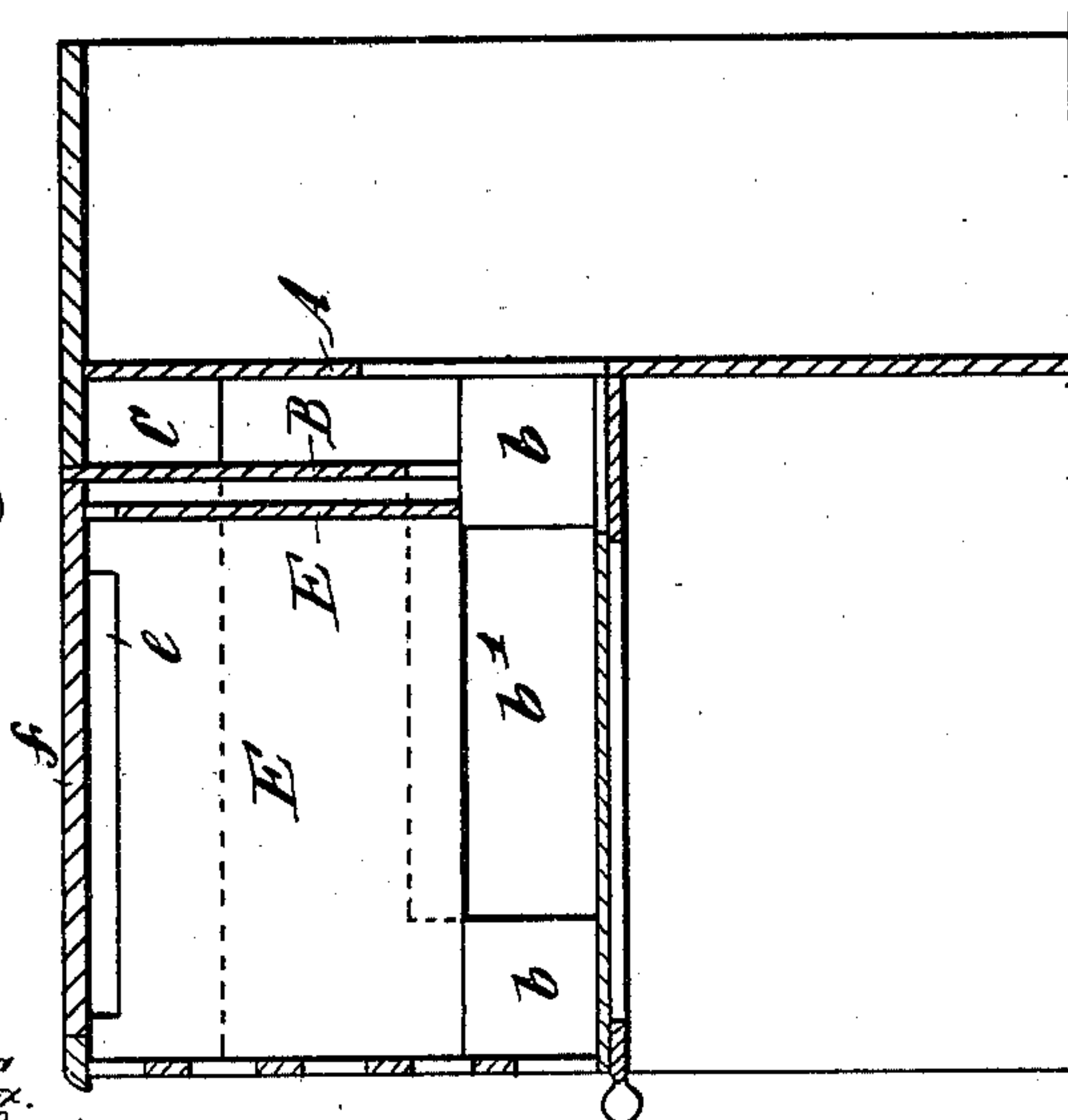


Fig. 2.



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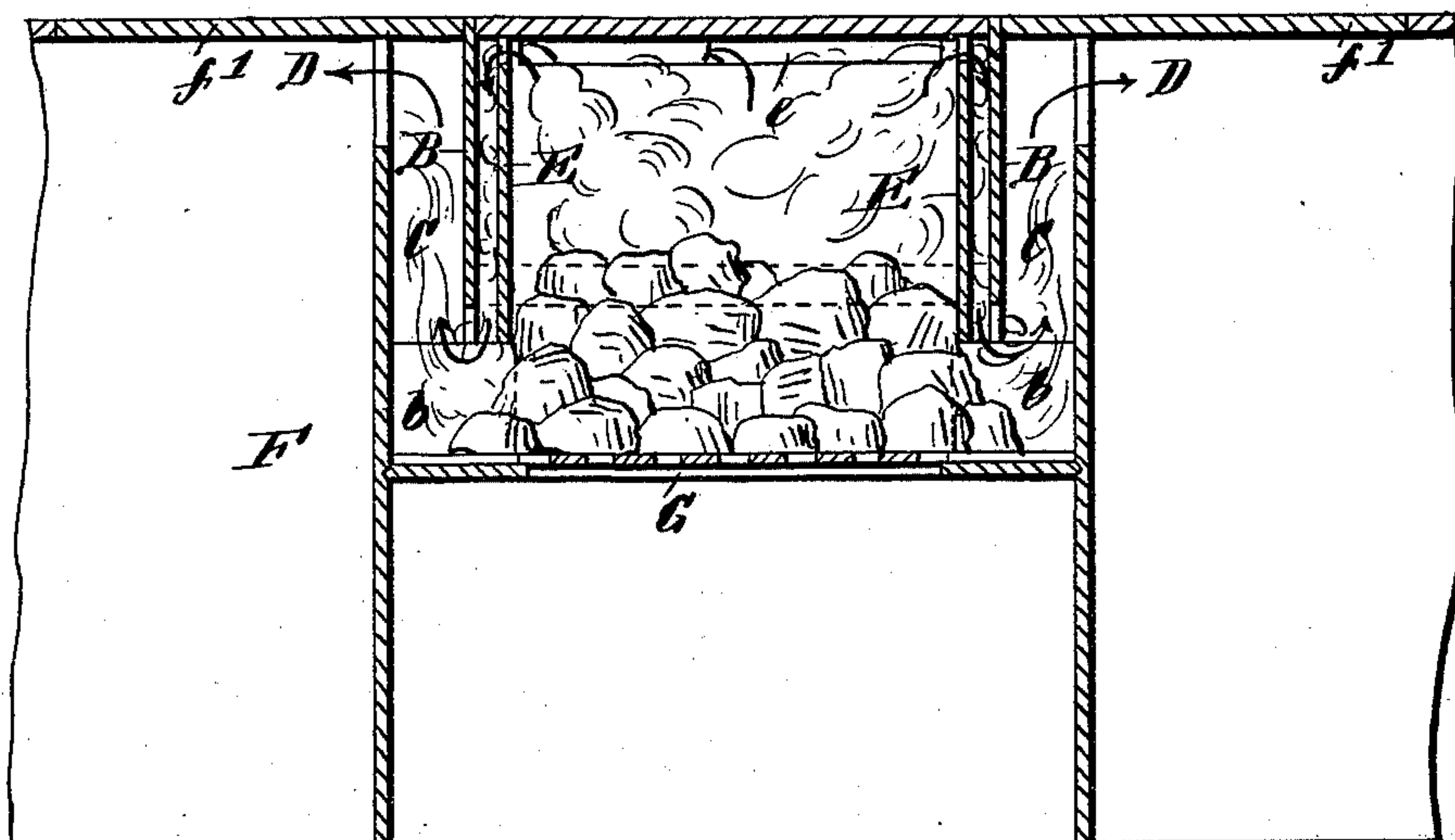
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Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY PERFETT, OF IPSWICH, ENGLAND.

SMOKE-CONSUMING STOVE.

SPECIFICATION forming part of Letters Patent No. 685,864, dated November 5, 1901.

Application filed October 5, 1900. Serial No. 32,192. (No model.)

To all whom it may concern:

Be it known that I, HENRY PERFETT, a citizen of England, residing at 20 Fitzroy street, Ipswich, in the county of Suffolk, England, have invented certain new and useful Improvements in Smoke-Consuming Stoves, of which the following is a specification.

This invention relates to a stove which enables the smoke from the fuel to be thoroughly consumed. The main draft is arranged to be taken from the lower part of the fuel, which is consequently raised to a high state of incandescence, while the heated air and smoke from the top of the fuel are drawn down to a point where they meet the flames or highly-heated air escaping from the incandescent fuel. The smoke, which is already considerably heated in its downward passage, on meeting the flames is at once consumed and only gases and heated air escape.

The accompanying drawings show my invention applied to an ordinary kitchen-range; but it is of course to be understood that the construction is not confined to such ranges.

Figure 1 is a plan of part of a kitchen-range with the top removed. Fig. 2 is a transverse section through the fire-box. Fig. 3 is a section at right angles to Fig. 2, and Fig. 4 is a similar view showing the fuel and the direction of the smoke and flames.

The fire-box A is provided with a wall B, placed a short distance within the ordinary wall, so as to form the flue C, extending around the sides and back of the fire-box. This flue opens at top into the ordinary flues D, passing over the oven and boiler. The inner wall is supported on the corner-blocks b, leaving openings around the back and sides at b' to give access to the flue C at the bottom of the fire-box. The draft from the fire thus passes from the lower part of the fire upwardly through the flue C to the ordinary flues. Within this inner wall plates E are fitted, covering the wall and leaving a very shallow passage at the back and each side. The upper ends of the plates are cut away at e, and the lower ends terminate some distance above the bottom of the fire-box, leaving the openings to the flue C clear. The fire-box is carried in the kitchen-range F of the usual construction and may be detachable, so that it can be removed bodily, if found desirable.

It is covered in at the top by the separate cover f, fitting closely within the top of the wall B, and the flues at the side of the fire-box may have openings above the oven and boiler closed by the plates f', which can be removed for heating kettles, saucepans, and other cooking utensils. The plates f' are shown in Fig. 1 in chain lines. The top of the fire-box is preferably always covered, as with this construction there is little heat immediately over the top of the fire. As the lower part of the fuel is directly open to the flues, it is most actively consumed, while the upper part is at a much lower temperature. The smoke from this part, as shown especially in Fig. 4, passes through the openings at the top of the plates E and is directed downwardly through the shallow passages to the bottom of the flues, where it meets (the points indicated by the bottom arrows in Fig. 4) with the flames and highly-heated air, which pass into the flues through the lower openings. The products of combustion from the bottom of the fire are quite clear and free from smoke, and the downwardly-descending smoke, being considerably heated as it passes down the shallow passages within the wall, is at once consumed on reaching the flames.

To clear the flues C when necessary, the slide G is provided beneath the grate, forming a bottom for the flues. This slide can be drawn out, and any ashes which may lie in these flues will fall into the ash-pit.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a smoke-consuming stove, a fire-box having an inner wall around the sides and back, flues between said wall and the sides of the fire-box, open to the bottom of the fire, plates fixed within the said walls cut away at top and bottom to form shallow passages leading from the top of the fire to the bottom, and a slide below the fire-box forming a bottom for the flues, substantially as herein described and shown.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY PERFETT.

Witnesses:

WILLIAM JAMES COX,
ROBERT KEMPSTER KEMP.