

(No Model.)

M. C. ARMOUR.

STOVE.

No. 284,112.

Patented Aug. 28, 1883.

Fig. 1.

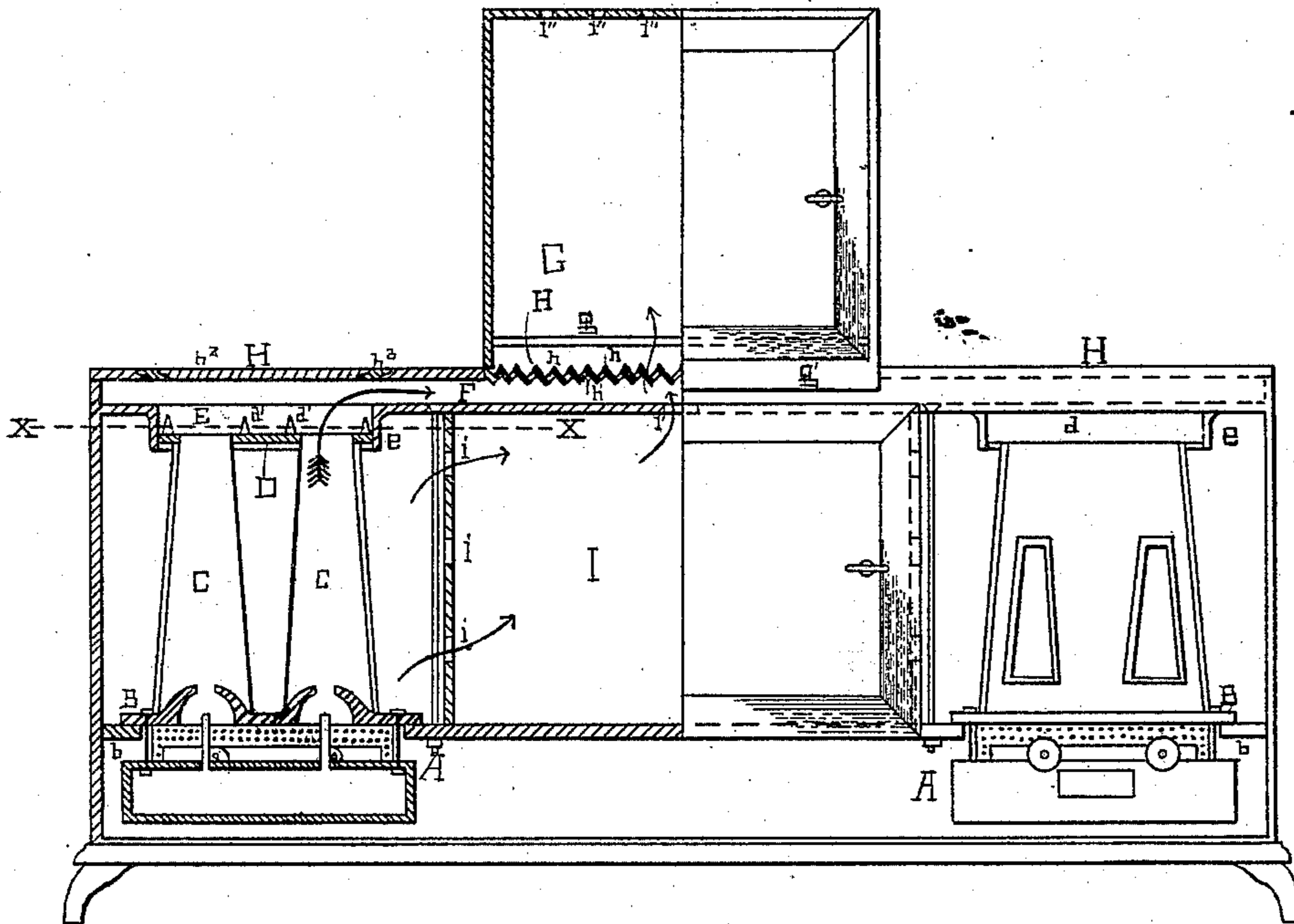


Fig. 2.

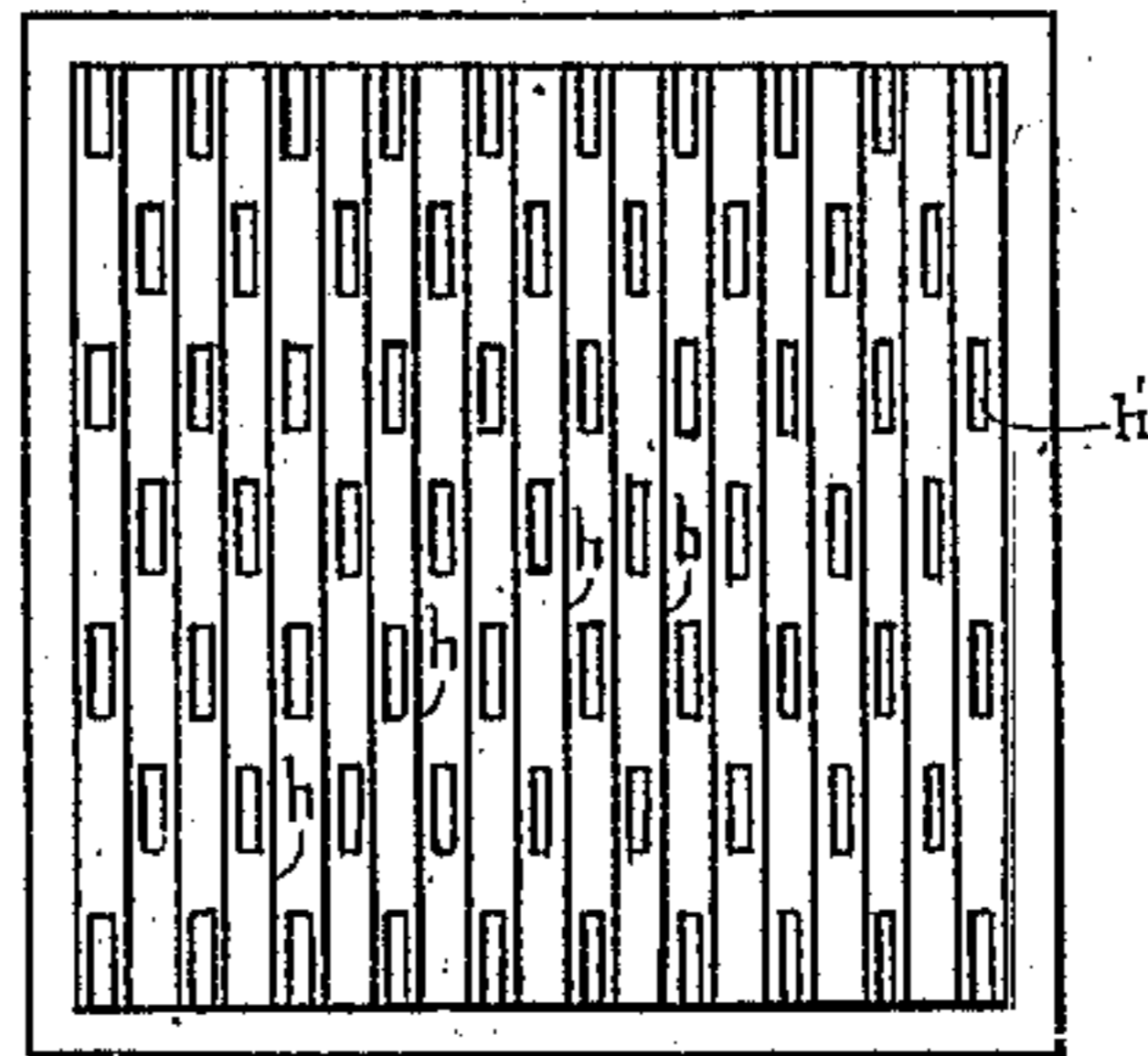
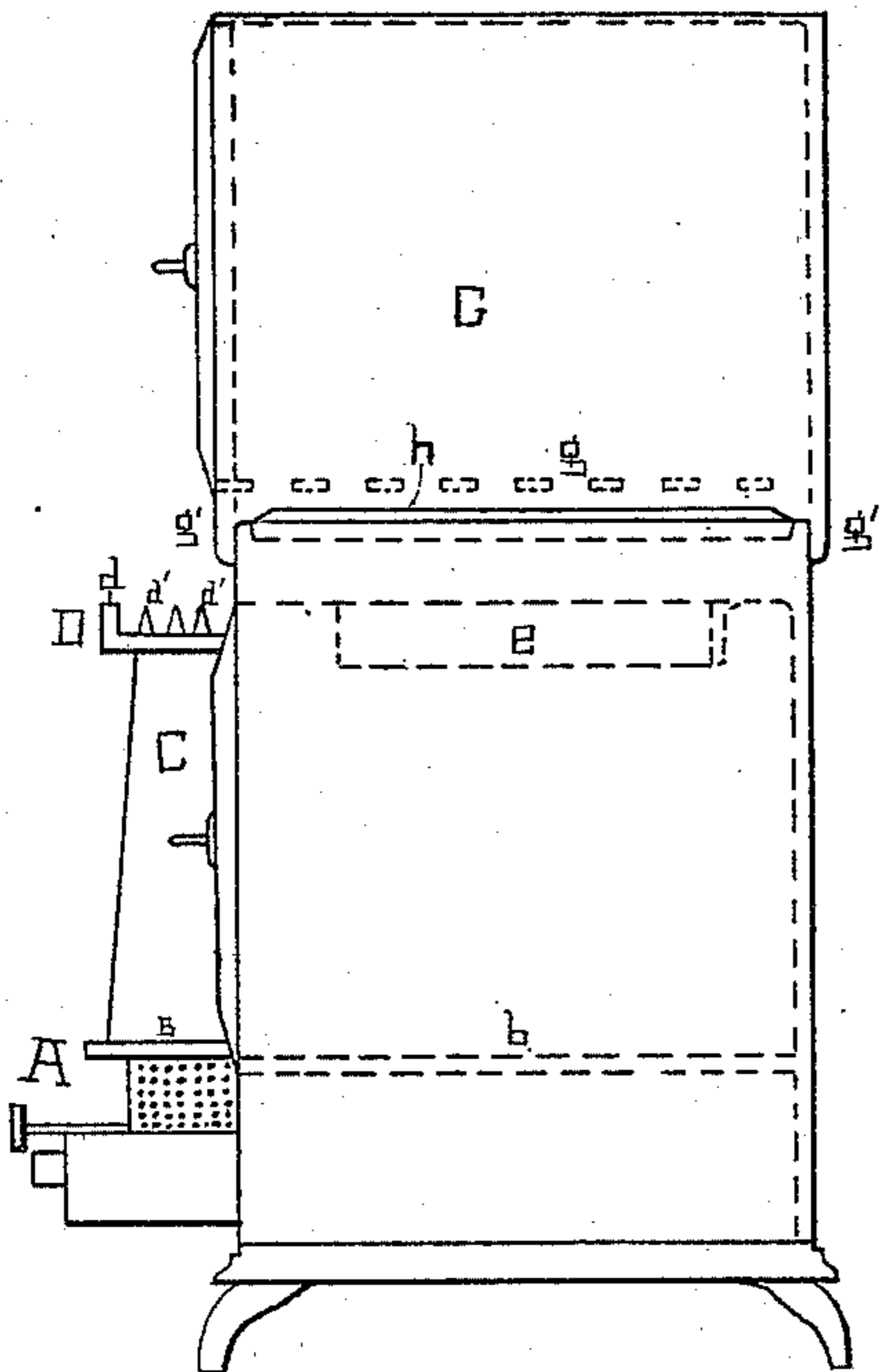


Fig. 4.

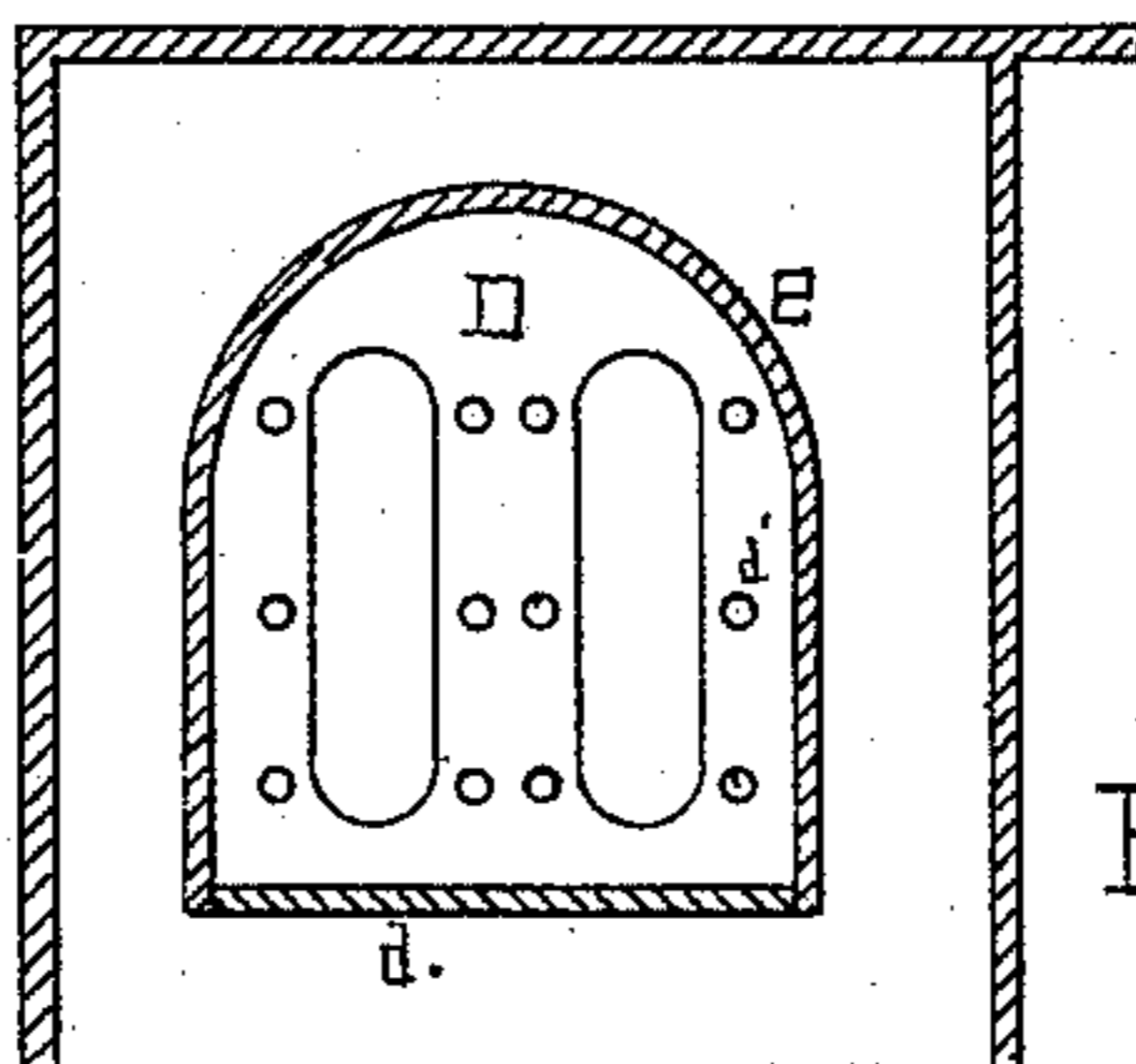


Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

MICHAEL C. ARMOUR, OF CHICAGO, ILLINOIS.

STOVE.

SPECIFICATION forming part of Letters Patent No. 284,112, dated August 28, 1883.

Application filed August 7, 1882. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL C. ARMOUR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Stoves, which are set forth in the following specification, reference being made to the accompanying drawings, in which—

Figure 1 shows a stove embodying my improvements, the right-hand half being a front elevation and the left-hand half being in central longitudinal vertical section, the two halves thus shown being counterparts of each other. Fig. 2 is an end view of said stove, showing one of the lamps partially removed. Fig. 3 is a plan section taken on the line *xx* of Fig. 1 through the lamp-chamber and top of the combustion apparatus, and Fig. 4 is a plan view of the perforated covering-plate.

My invention relates more particularly to stoves which use oil or gas for fuel, though some features are also applicable to stoves in general.

The objects of my invention are, first, to provide a convenient mode of adjustment between the flues or chimneys of the removable lamp and the flue of the stove proper, into which said chimneys discharge the combustion-current; second, to provide a stove with a sliding oven, adapted to cook by bringing the products of combustion in direct contact with the food; third, to provide for more thoroughly heating an oven through which the combustion-current passes; and, fourth, to provide for the more equal distribution of the products of combustion through exits not directly over the flame, and over which exits food may be cooked.

In the drawings, A represents the lamp, which is composed of a reservoir, wick-tubes, air-box, cones, chimneys, &c., arranged in the usual way. The lamp is supported in the stove by means of the edges of its cone-plate B, which rest on slides *b*, projecting from the sides of the lamp-chamber. The chimneys C are surmounted by a horizontal plate, D, provided with openings corresponding in position with the tops of the chimneys. This plate D forms the bottom of a chamber, E, intermediate between the chimneys and the horizontal

flue F at the top of the stove. Three sides of this intermediate chamber are formed by a flange, *e*, depending from the floor of the horizontal flue (which is cut away within this flange) and closely surrounding the back and sides of the plate D, on the front of which is mounted an upwardly-projecting flange, *d*, which forms the fourth side of the chamber. It will be seen that the lamp-chimneys thus make tight joints with the horizontal flue, without in the least detracting from the facility with which the lamp may be adjusted.

d' are studs rising from the plate D, which are provided to enable the attendant to remove the combustion apparatus (composed of the lamp and chimneys, &c.) from the stove, and heat flat-irons, &c., on the top of this combustion apparatus without smothering the flame.

Between the two lamps is an oven, I, heated by radiation therefrom, this radiation being intensified by the hot air around the lamps being drawn into and through the oven I (through the perforations *i* and *i'*) by induction produced by the combustion-current in its passage near the latter perforations. The oven I is thus in reality a part of an induction-flue, the lamp-chambers through the perforations *i* forming the feeding ends thereof.

The top of the flue F is composed of three removable covering-plates, H, the vertical walls of said flue being the four sides of the stove, near its top. The center one of these covering-plates is perforated and provided with ridges or protuberances *h*, rising above the general level of the top of the stove, the perforations *h'* being in the depressions between said ridges. The other two covering-plates H are provided with vessel-openings and suitable covers, *h*², and rings *h*³ therefor. The three plates H all stand in substantially the same place.

G is an upper oven, the bottom of which is composed of a rack, *g*, the openings in which admit the products of combustion to all parts of this oven, the top of said oven being provided with suitable exit-openings, *i''*, for said products of combustion. This oven G has guides or flanges *g'*, depending alongside the front and back of the stove-top. The alternate sides of this oven, however, (between the sides on which these guides are attached,) are

slightly cut away at the bottom, in order to allow of the sliding of this oven over the ridges *h*. It will be seen that this oven *G* may thus, by sliding it, be readily adjusted, so as to be used directly over either lamp, or at any intermediate point, as desired.

In the drawings the oven is shown midway between the two lamps and directly over the perforated plate *H*; but this oven *G* can be warmed solely by radiated heat, when it is desired to appropriate the combustion-current otherwise, by simply sliding it over either lamp without removing any part of the closed covering-plate. It will be observed that this oven *G*, as well as the covering-plate under it, is heated not only by the combustion-current, but also by the induction-current. By setting in motion the heated air around the lamps toward the stove-top or oven *G*, where it can be utilized, less heat is radiated through the sides of the stove.

It will be observed that the use of two lamps, (instead of one,) one at each end of the stove, when combined, as shown, with the center plate, *H*, is attended with the advantage that the combustion-current, inasmuch as it proceeds to the exit-openings of an intermediately-located covering-plate from opposite directions, is distributed more uniformly in its passage through said plate than would be the case if both lamps were consolidated into one lamp at one side only of said plate *H*. The perforations *h'*, in whatever angle to the stove the former may be set, always, even when the protuberances are all covered by a cooking utensil, furnishing at least side exits to the outer air, which admit of the escape and consequent continuity of the combustion-current, while at the same time allowing of the placing of food and all kinds of vessels upon said plate without special care in their adjustment. Indeed, the perforations alone—that is, without the protuberances—will, if there be a series of them, and if they be so small individually as not to allow of cooking utensils falling into them, insure almost uniformly the attainment of these beneficial results. All this may be accomplished, while at the same time the combustion-current thoroughly heats each end of the stove-top, by direct contact with its under side before the currents thus unite at the center plate, *H*. In this way the whole stove-top is made wholly and equally available for cooking purposes, the disadvantage arising from the center plate being farther from the flame and receiving the combustion-current after its heat has been partly exhausted by radiation being compensated for by the union of two currents and their uniform distribution directly upon and around the food or utensil resting upon or above the perforated plate, (whether in connection with the oven *G* or not,) and thus placed in immediate contact with and thoroughly enveloped by said current.

The advantage of heating a combustion-current oven, when used in connection with a part

of the stove-top reserved for cooking purposes, by two combustion apparatuses, one at each side, instead of one combustion apparatus at one side, is that the heat is thereby more evenly distributed through said oven; and the draft through the same is improved by reason of the diminution of the distance between the entrance and exit of a given current, which, by the present construction, is rendered compatible, with a thorough permeation of said oven by said combustion-currents.

I do not claim, broadly, a stove having a combustion apparatus at each end and an orifice in the top between said combustion apparatuses, and accessible to the currents from the same, but not intended for their exit; and I do not here claim the covering-plate shown by Fig. 4; but

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

1. Combined in a stove, two combustion apparatuses, an oven between them, a top every part of which is in substantially the same plane, and an oven adapted to rest over either combustion apparatus or over the oven between them, substantially as set forth.

2. Combined in a stove, two combustion apparatuses, an oven between them, having its lateral and top walls perforated, a top standing in a plane above said combustion apparatuses and top wall of the oven, and forming with said wall a combustion-current flue, and a ventilated oven adapted to rest over either combustion apparatus or over the oven between them, whereby it may, under different conditions, be heated either by the passage through it of the products of combustion, and by a current of hot air induced thereby, or by simple radiation of heat, substantially as set forth.

3. In a stove, two combustion apparatuses, an oven or induction-flue placed between them and communicating therewith, a top placed above said combustion apparatuses and oven, and having in substantially a common plane an imperforate section over each of said apparatuses, and a perforate section over said oven or induction-flue, substantially as set forth.

4. Combined in a stove, combustion apparatuses, combustion-current and induction flues, a top having imperforate and perforate sections, and a ventilated oven adapted to rest and slide upon said top, whereby, under different conditions, it may be heated by the passage therethrough of the products of combustion and a current of air heated thereby, or by simple radiation of heat, substantially as set forth.

5. In a stove, a top having imperforate and perforate sections standing in substantially the same plane, the imperforate sections being heated by the action thereupon of the combustion-current, and the perforate section by said current and a current of air induced and heated thereby, combined with an oven adapt-

ed to rest upon said top and to be moved to different points in its length, substantially as set forth.

6. In a stove, a top having imperforate and 5 perforate sections in substantially the same plane, combined with a ventilated oven having a grated bottom and adapted to be moved along the length of said top, so that said oven may be brought over either the perforate or 10 imperforate sections, and thereby be heated under different conditions, substantially as set forth.

7. In a stove, the combination of a heating apparatus, a top having imperforate and per- 15 forate sections, combustion-current and induction flues, and an adjustable oven adapted to be placed over either the imperforate or perforate sections of the top, and which, when removed from the perforate section, allows of 20 the free escape of the products of combustion through the same, and of their utilization for other purposes of heating, substantially as set forth.

8. In a stove, a combustion apparatus at 25 each end thereof, an intermediate oven or induction-flue, a top having imperforate and perforate sections, and a ventilated oven adapted to rest and slide upon said top, substantially as and for the purposes set forth.

9. In a stove, a top having imperforate sec- 30 tions, and a perforate section provided with ridges *h*, said sections being in substantially the same plane, combined with the adjustable oven *G*, having the grating *g*, and the venti- 35 lating-apertures *i''*, substantially as and for the purposes set forth.

10. In a stove, a combustion apparatus at each end, an intermediate oven or induction-flue having perforations *i i'*, the top *H*, hav- 40 ing imperforate sections, and a perforate section provided with ridges *h*, the flue *F* being formed below said top, as shown, combined with the adjustable oven *G*, having the grat- 45 ing *g* and the ventilating-apertures *i''*, substantially as and for the purposes set forth.

11. In a stove, a top having imperforate and perforate sections, combined with a slid- 50 ing oven having guiding-flanges, adapting it to be retained upon and moved along said top, substantially as set forth.

12. A stove provided with the flanges *e* and *d*, one on the combustion apparatus and the other on the stove proper, substantially as set forth.

13. A stove having on its top a sliding 55 oven open at the bottom and provided with flanges for guiding it, substantially as set forth.

14. In a stove, two combustion apparatuses, an oven or space between them, a top placed 60 above said combustion apparatuses and oven, and having an imperforate section over each of said apparatuses and a perforate section over said oven or space, substantially as set forth.

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Witnesses:

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