

E. HARMON.
Heating-Stove.

No. 128,878.

Patented July 9, 1872.

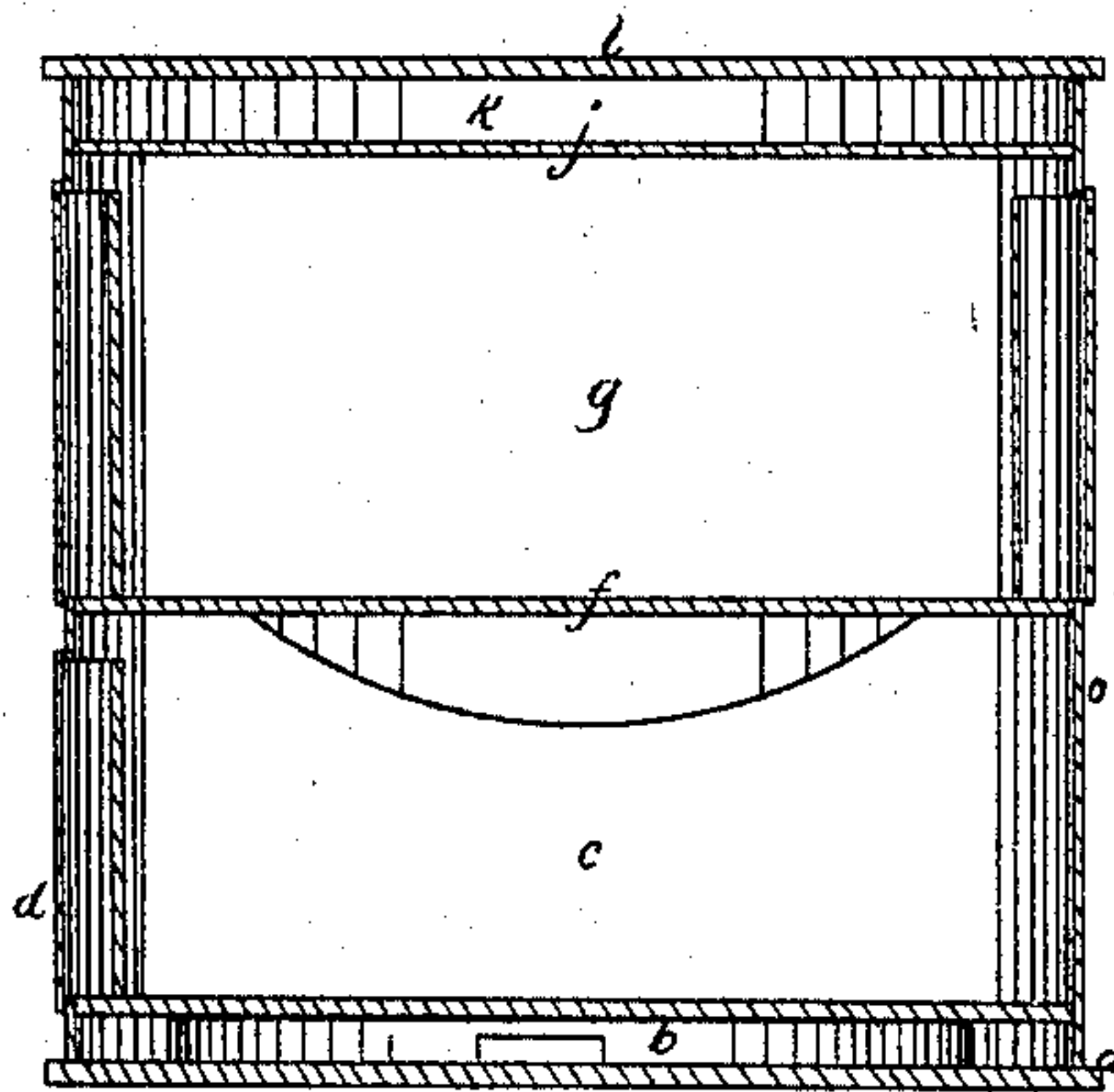


Fig. 1.

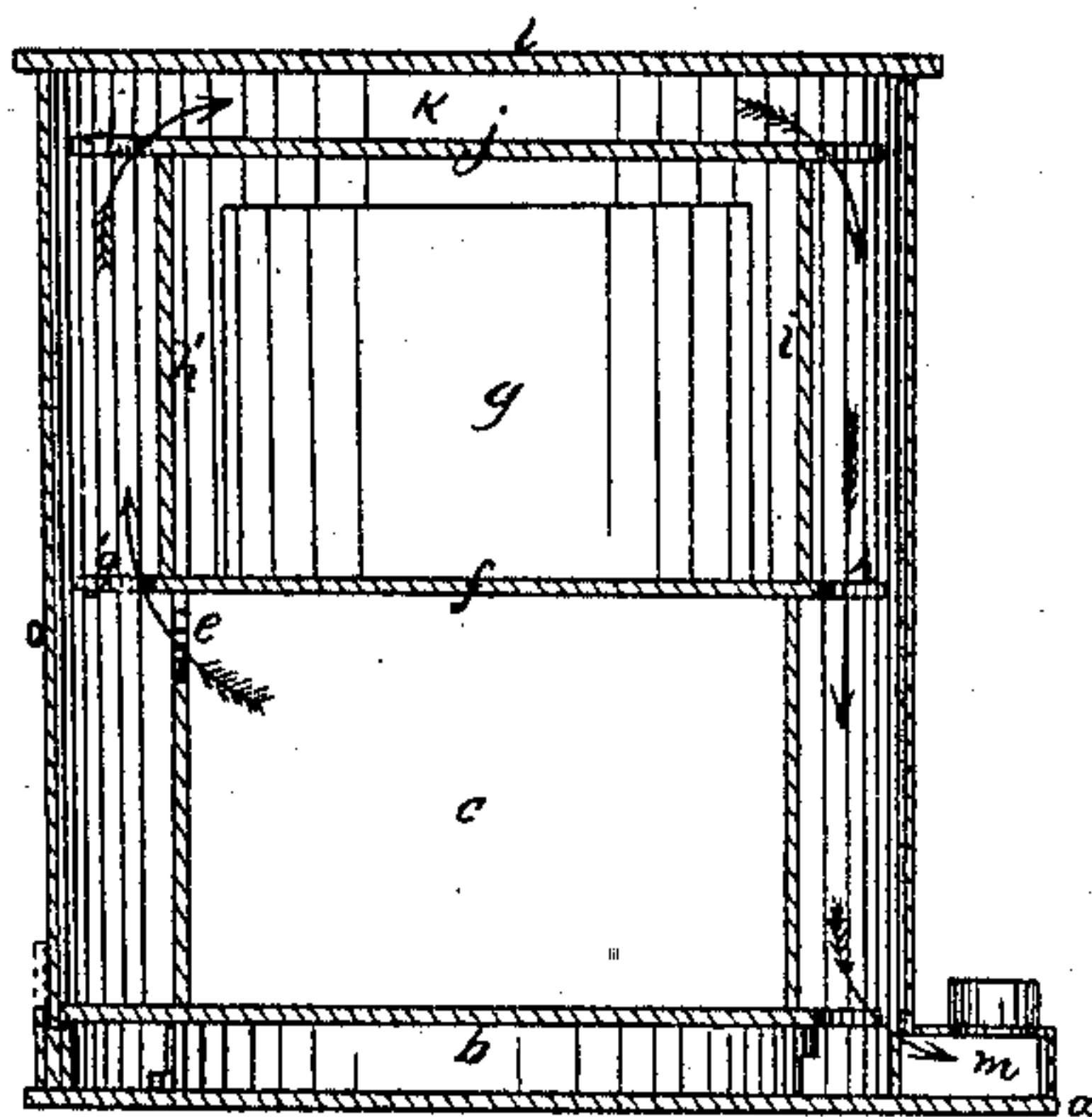


Fig. 2.

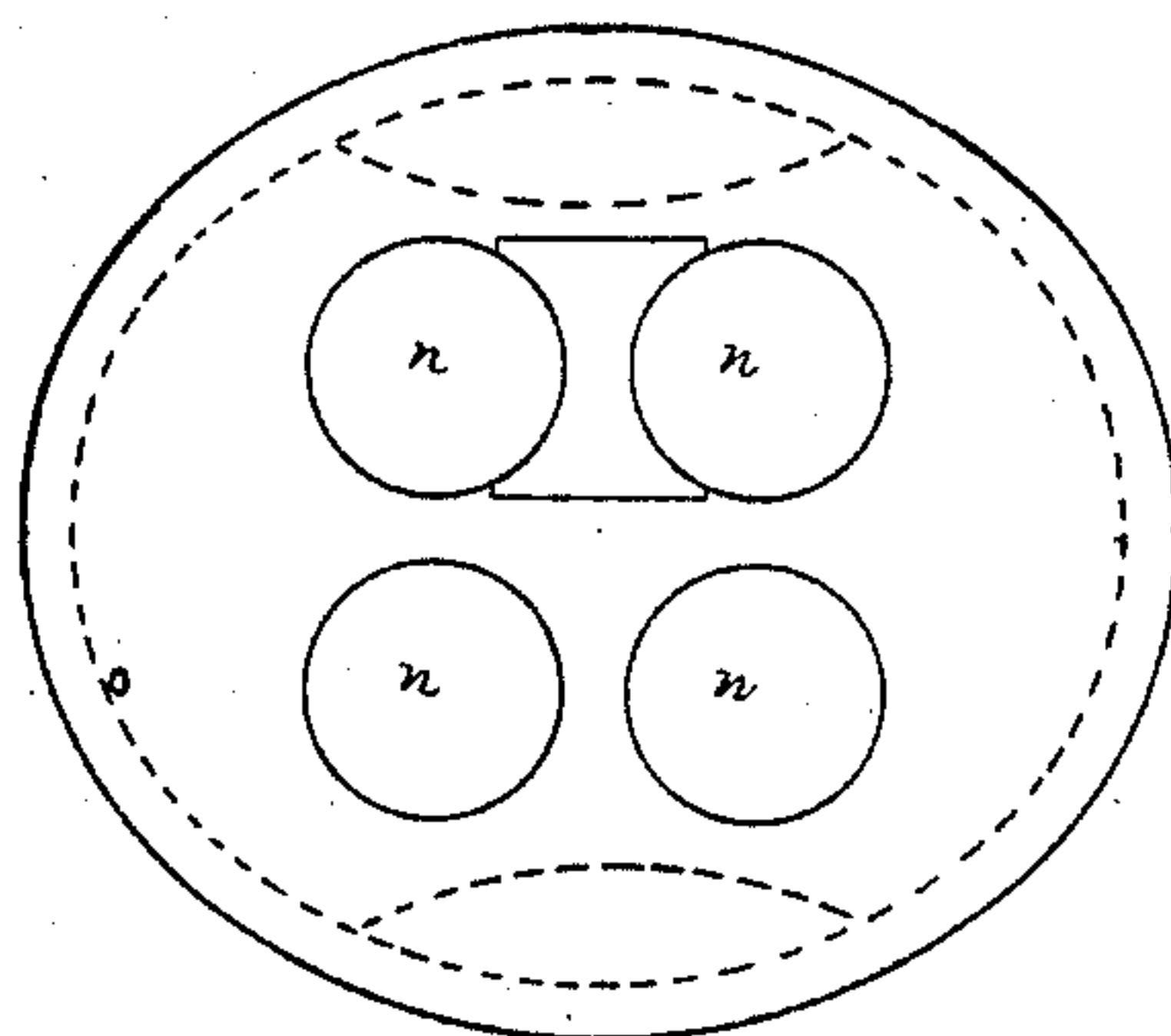


Fig. 3.

Witnesses:

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ELIAS HARMON, OF SACO, MAINE.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. 128,878, dated July 9, 1872.

To whom it may concern:

Be it known that I, ELIAS HARMON, of Saco, in the county of York and State of Maine, have invented a new and useful Improved Coal and Wood Stove; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, which is hereby made a part of this specification, in which—

Figure 1 shows a perpendicular transverse section of my improved stove. Fig. 2 shows a similar view at right angles with the former. Fig. 3 is a plan view of the top of my improved stove.

Same letters show like parts.

My invention relates to a stove for burning wood or coal, the said stove being adaptable to be used as a cooking or heating stove, or may be both combined. The object of my invention is to produce a stove in which the maximum of heat is produced by the use of a minimum amount of fuel. This being the object, it is evident that the novelty of my invention must consist in the arrangement of the different parts composing said stove, this being particularly directed to the position of the fire-box, where the burning of the fuel takes place, in reference to the oven and other parts of the stove, the direction of the hot and cold air currents, and the points of the ingress and egress of the air into and away from the said stove.

I claim nothing new in the material of which my stove is constructed, it being made of the materials ordinarily used for making stoves; and my improved arrangement can be used with equal facility, whether the stove be made of sheet or cast iron, soap-stone, marble, or any other material.

I will commence my description at the bottom plate *a*, which is to be supported on legs in the usual manner, and may have a broad overlapping ornamental flange of any desired pattern, the ornamenting of said bottom not being claimed as a part of my invention. Above this said bottom plate *a* I make a small elevation of the bottom of the fire-box *c* above the said bottom plate *a*; this to take advantage of the known non-conducting properties of air to prevent the heat from the fire-box from scorching the floor or oil-cloth or any other thing under the stove. Above this air-

chamber *b* is the fire-box *c*, of the form of a rectangular parallelogram, (or as near that form as is compatible with the form of the stove,) with the point of ingress for the air necessary to support combustion at *d*—i. e., at a draught-register in the door. When the fuel is placed in the stove and ignited the smoke, flame, and heat, following the air current or draught in the direction of the arrows shown in the drawing, passes out of said fire-box at the point *e*. Another partition, occupying the whole interior space of the stove, is seen at *f*. This partition fills the double office of top to the fire-box and bottom of the oven of the stove, and has the two orifices at *g'* and *h* for the passage of the draught, said orifices being in the form of a segment of a circle. Above this partition *f* is seen the oven *g*, surrounded by the partitions *h'* and *i* as to its sides, and above said oven is still another partition, *j*, similar in all respects to the partition *f*, and having similar orifices as those seen at *g'* and *h*, and for the same purpose in all particulars. Between this last-named partition *j* and the top of the stove is a chamber of the full size of the top inside of the outer case or shell, which said chamber *k* must, of course, be filled with heated air when combustion is going on in the fire-box *c* below. Above this partition, and supported on it by standards or posts, is the top *l*, which can be perforated with holes to receive kettles, saucepans, and other cooking utensils, or not, as may be preferred. In case such perforations are made another and ornamental top may be used, hinged to the first or actual top *l*. This, however, is common, and is not claimed as novel in this application. From this point—that is, the chamber *k*—the course of the draught, with accompanying smoke, heat, &c., is in the course marked by the arrows down through the orifices in the partitions, opposite to those in which it passed upward to the chamber *k*, to its point of egress at exit-flue *m*, where the pipe or flue is to be attached to the stove. At Fig. 3 is shown, as before stated, a plan view of the top of the stove, at *n n n n* being seen the perforations, which have been herein described, to contain cooking utensils. The interior dotted line *o* shows where the outer shell or skin of the stove is joined to the top. Downward through the whole length of the stove screw-

rods pass, which are not shown in the drawing, which, being tightly screwed up, hold the whole firmly together. No other fastenings are necessary for this purpose, as all the parts are made with grooves fitting closely. Dampers or draught-registers are to be used, as in common stoves, for the purpose of regulating the draught and increasing or checking the combustion within the stove.

I have before intimated that my improvement might be used equally well for burning wood or coal. This would, of course, involve changes in the relative size of the fire-box to the other portion of the stove, and certain other changes in relation to the draught, &c., which are too familiar to require enumeration.

By examination it will be seen that the fire, or with more accuracy the heated air, not only envelops the oven upon three sides, but also traverses a very large part of the inner surface of the outer shell or skin. This largely-increased contact of the fire with the outer surface of the oven would in most cases involve a necessity of having a grate in the bottom of the oven. This would be specially necessary,

of course, in case a large or hot fire was burning in the stove.

I wish it to be particularly understood that it is not intended to embrace in this application anything beyond the specific arrangement of the parts herein designated, producing a far greater amount of available heat from a given amount of fuel than by any other means.

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

1. The arrangement, in a wood-burning stove, of the outer skin or shell *o*, the fire-box *c*, partitions *j* and *f*, orifices *e*, *g'*, and *h*, draught-registers *d*, and exit-flue *m*, all in the specific manner and for the purposes set forth.

2. The combination, in a wood or coal stove, of the outer skin or shell *o* with the fire-box *c*, oven *g*, partitions *j* and *f*, draught-registers *d*, exit-flue *m*, and orifices *e* *g'* *h*, all in the manner and for the purposes as set forth.

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Witnesses:

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