L. A. ORCUTT.

Cooking Stove.

No. 5,987. Patented Dec. 26, 1848.

Fig. 1

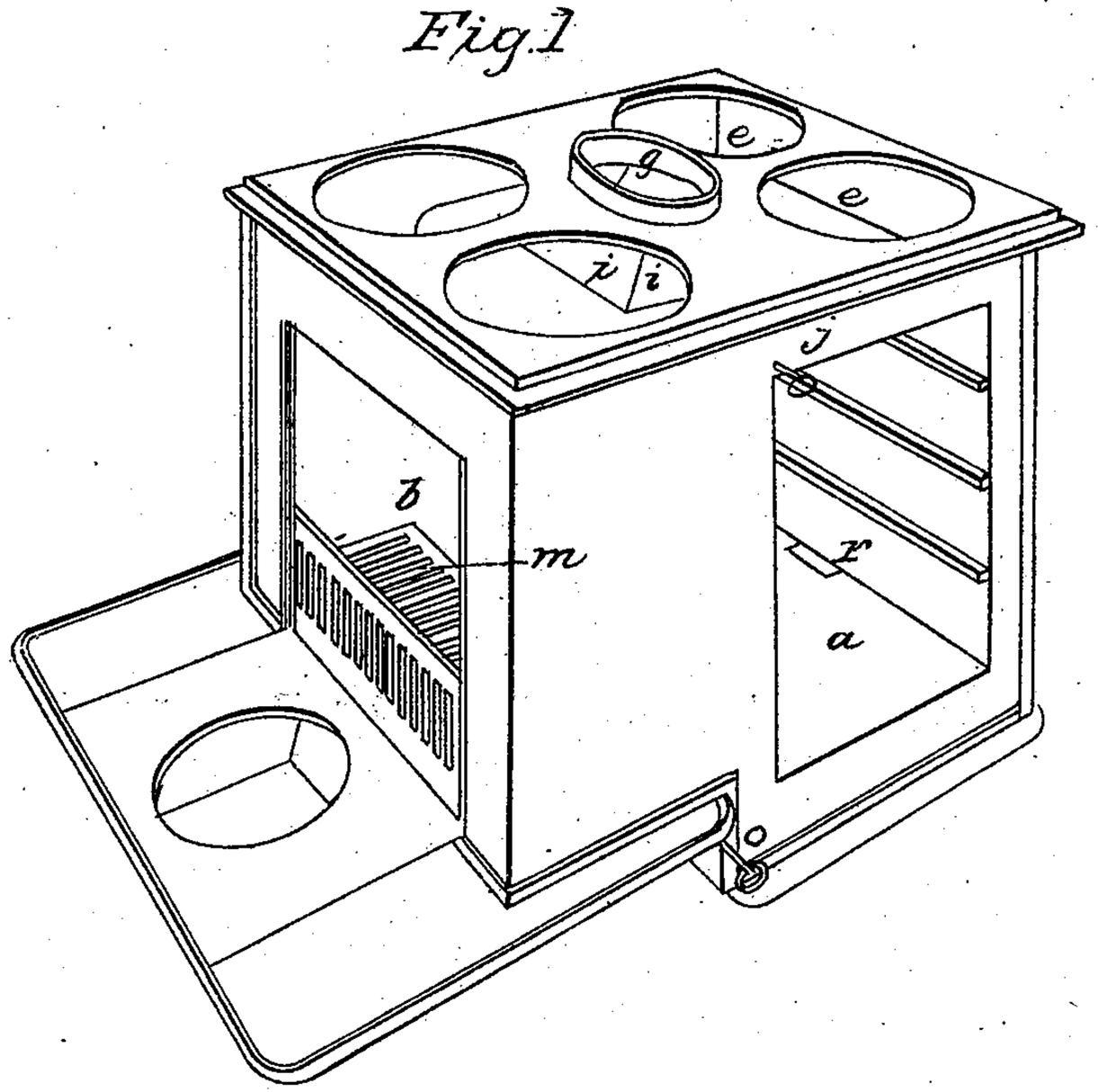
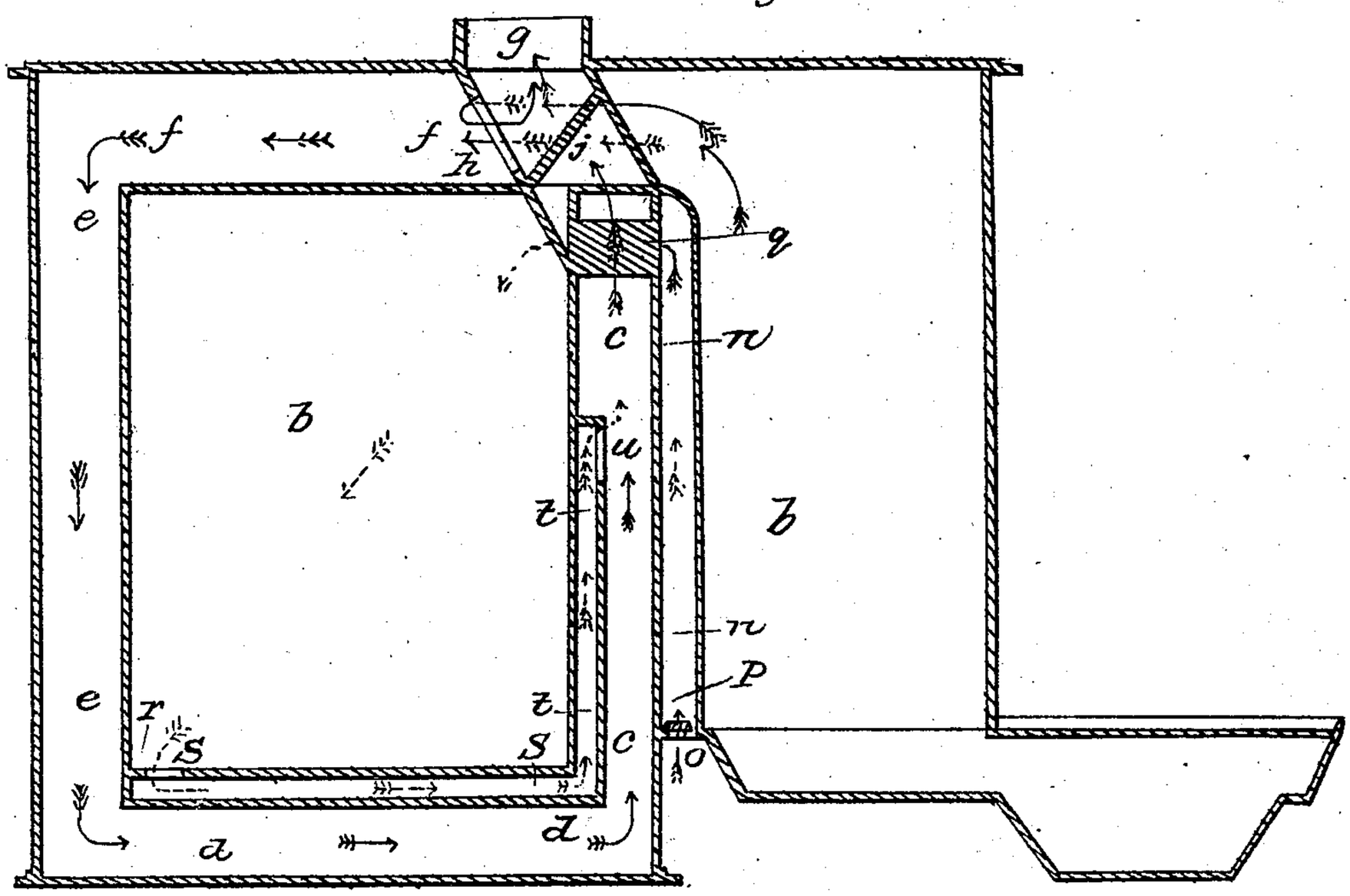


Fig. 2



UNITED STATES PATENT OFFICE.

LYSANDER A. ORCUTT, OF ALBANY, NEW YORK.

COOKING-STOVE.

Specification of Letters Patent No. 5,987, dated December 26, 1848.

To all whom it may concern:

Be it known that I, LYSANDER A. ORCUTT, of Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Cooking-Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a stove embodying my improvements, and Fig. 2 is a vertical longitudinal section of the same showing the disposition of the flues, &c.

The same letters refer to corresponding parts in both figures.

The nature of my invention consists in substituting in cooking stoves an open "Frankin fire place" in lieu of the usual close fire chamber; (said open fireplace however being so arranged as to be capable of being converted at pleasure into a close fire chamber); and also in a new arrangement of flues and apertures to create a current of hot air through the oven, to carry off the moisture, &c., generated in the act of baking.

My stove is of the cubical form the oven *a* being situated immediately in the rear of the open fire place *b*, which latter extends from the bottom to the top of the stove and occupies its entire width. The top, bottom, front and back plates of the oven are situated at such distance from the adjacent outer plates of the stove, as to leave a vacuity between them, which vacuity forms the four flues *c c*, *d d*, *e e*, and *f f* extending entirely around the oven, the latter flue communicating with the fire place at its top. The front flue *c c*, is closed at the top with the exception of the portion lying under the smoke pipe *g*, which is situated at the center of the top of the stove and nearly over the flue *c c*. The before mentioned opening in the top of this flue is connected with the smoke pipe opening, by a close boxing *i i*, so that the only egress from the upper part of the flue, is through the boxing and smoke pipe. It will be observed that the middle portion only of the front of the flue *f f*, is obstructed by the boxing *i i*, there being a free passage upon each side, through which the heated current passes in its passage from the upper part of the fire place as indicated by the arrows in the drawing. From thence, when the oven is in use, the current passes to the rear and down the flue *e e* at the back of the stove, thence through *d d* beneath the oven to the front flue *c c*; ascending which, and passing through the boxing *i i* before described, it passes to the smoke pipe.

In the back side of the boxing *i i*, is a large aperture *h*, governed by a flap damper *j* which serves to close it when the oven is in use, as just described. The damper *j* is so large, as when thrown into the position shown in the drawings to entirely close the passage from the front flue *c c* through the boxing *i i*. In this case the current ascends from the fire place into the top flue *f f*, passing through the intervals upon each side of the boxing, and reverting, enters the opening *h* and escapes directly into the smoke pipe, as indicated by the red arrows. A large movable plate or door is provided by means of which the front opening of the fireplace may be entirely closed, converting the whole into a close stove, fuel in this case being introduced into the fire place by a side door, and the draft admitted by drawing back the hearth plate.

The fireplace may be used either with wood or coal, (a grate *m* being introduced in the latter case) and the whole arrangement combines all the conveniences of an open fire place for roasting, broiling, &c., as also the cheerfulness of an open fire, when used only for heating, with all the advantages of a close airtight cooking stove.

My second improvement regards the introduction of a current of hot air into the oven as before mentioned.

n n is a vacuity between the two plates at the back of the fireplace. It is closed at the top and has openings communicating with the external air at *o*, which may be closed at pleasure by a damper *p*. One or more tubes *q* form a communication from this vacuity to the oven, said tubes passing through the front flue *c c* without communicating therewith, and opening into the oven near its top. In the middle of the hinder part of the bottom plate of the oven, is an aperture *r* opening into a small flue *s s*, *t t* boxed off from the larger flues *d d* and *c c* through which it passes, but opening into the latter at *u*.

The operation of this portion of my invention is as follows: The air heated by its passage through the vacuity *n n* between the plates at the back of the fireplace passes as indicated by the dotted arrows, through

the tube *q* into the upper part of the oven, while the steam and gases generated in baking are carried off through the opening *r* by the draft created in the small flue *s s*, *t t*, in consequence of the communication of this latter with the more highly rarefied air in the front flue *c c*, and pass eventually into the smoke pipe.

I am aware that heated air has heretofore been introduced from the vacuity between the plates at the back of the fire chamber into the lower part of the oven and discharged near the top. By this arrangement however, the hottest portion of the air contained in the oven was withdrawn while the colder air and more ponderous gases were left to occupy the lower portion of the oven.

By my arrangement of introducing the hot air at the top and withdrawing it at the bottom of the oven, this state of things is reversed, and it is to this latter arrangement, I intend to confine myself in my claim hereinafter recited.

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

The introduction of heated air from the vacuity *n n* between the two plates at the back of the fireplace, into the upper part of the oven, by means of a pipe or pipes which pass through the front flue *c c*,—in combination with the exit passage *r*, situated at, or near the bottom of the oven, and the small flues *s s* and *t t* arranged and operating as herein set forth.

LYSANDER A. ORCUTT.

Witnesses:

WM. S. ELLISON,

R. J. WILSON.