2 Sheets--Sheet 1.

G. N. PALMER.

Reservoir Cooking-Stove.

No. 163,517. Patented May 18, 1875.

FIG. 1.

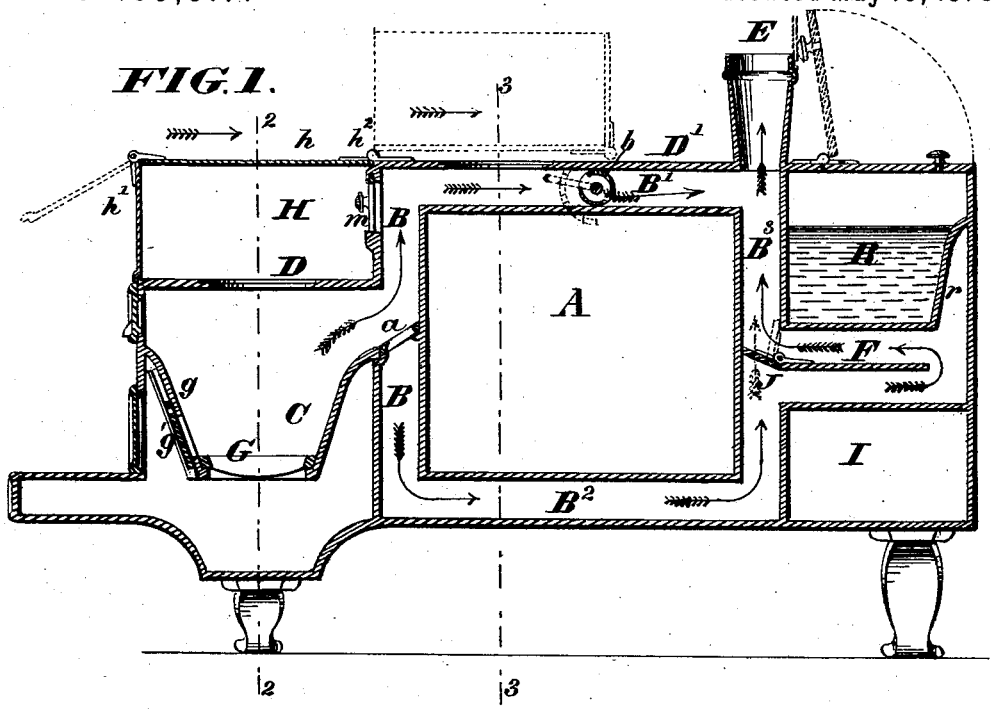


FIG. 2.

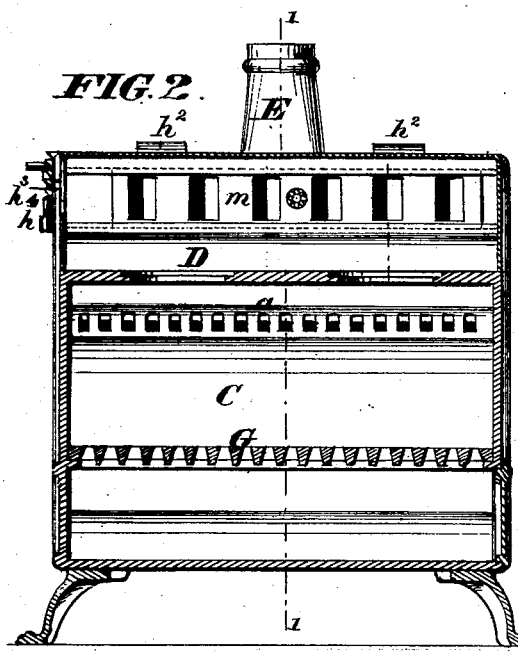
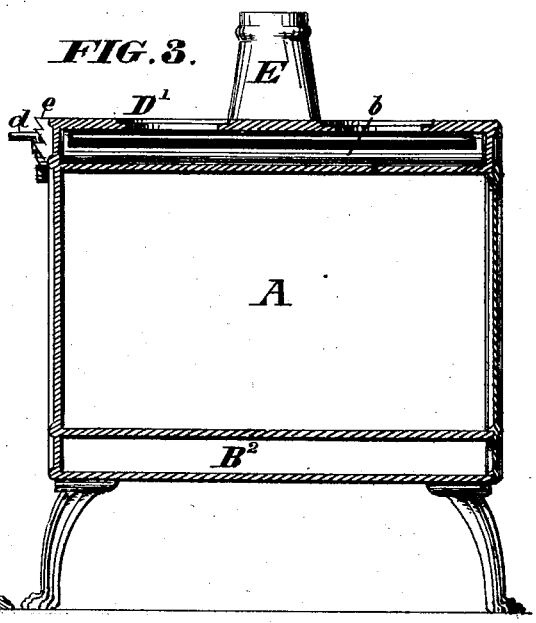


FIG. 3.



WITNESSES.

Jas L. Ewin

Henry Tanner.

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2 Sheets--Sheet 2.

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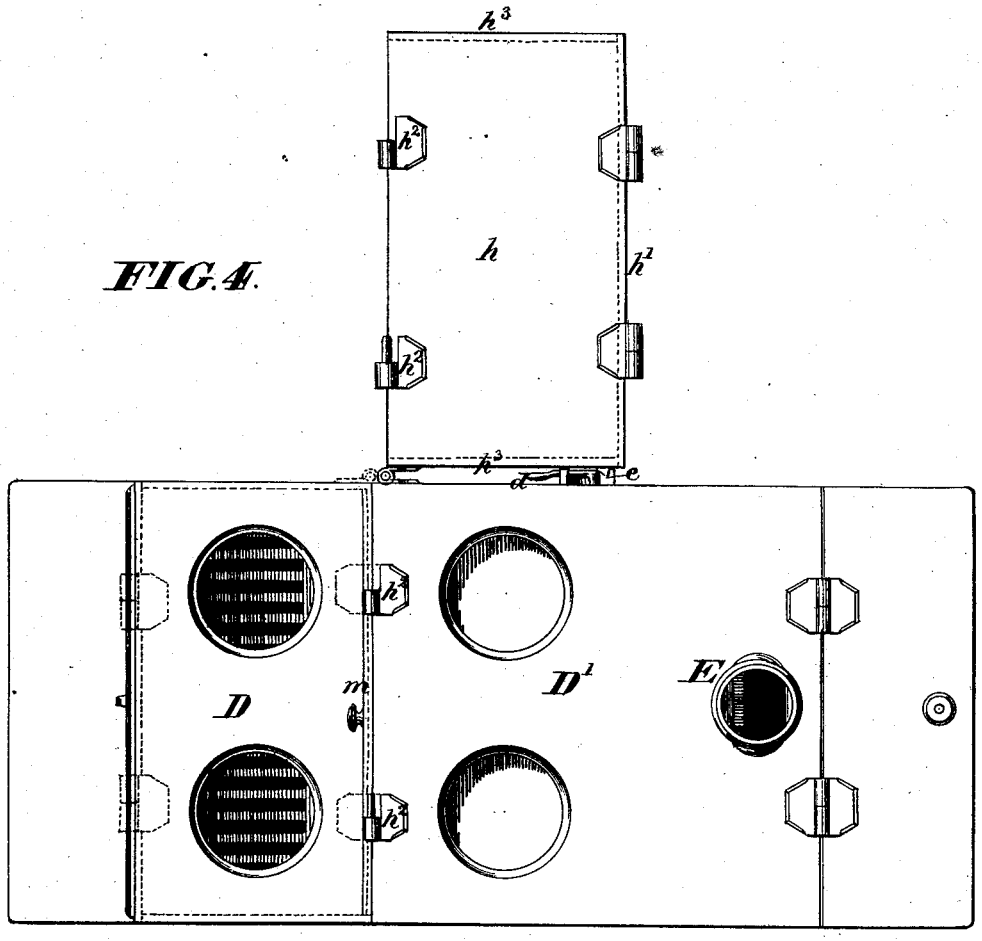
FIG. 4.



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UNITED STATES PATENT OFFICE.

GEORGE N. PALMER, OF ELMIRA, NEW YORK.

IMPROVEMENT IN RESERVOIR COOKING-STOVES.

Specification forming part of Letters Patent No. **163,517**, dated May 18, 1875; application filed July 23, 1874.

To all whom it may concern:

Be it known that I, GEORGE N. PALMER, of Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Cooking-Stoves, of which the following is a specification:

My invention consists, first, in an improved construction of a removable folding oven surmounting the fire-box of a step stove, as hereinafter described; second, in a combination of flues, oven, and fire-box, with removable supplemental oven, as hereinafter set forth.

In the accompanying drawing, Figure 1 is a vertical longitudinal section of a stove illustrating my invention. Fig. 2 is a transverse section thereof on the line 2 2, Fig. 1. Fig. 3 is a transverse section on the line 3 3, Fig. 1. Fig. 4 is a plan or top view.

A represents the main oven. B B^1 B^2 B^3 are flues surrounding the same, extending the entire width of the stove, and conducting the products of combustion from the fire-box C to the discharge-flue E under the control of dampers hereinafter described. D is the top plate of the fire-box, and D′ the top plate of the rear part of the stove over the oven. H is a supplemental oven surmounting the top plate D of the fire-box, and formed by hinged plates h h^1 h^3, the horizontal plate h being connected by hinges h^2 to the plate D, and the vertical front h^1 being hinged to the horizontal plate h. m is a register in the vertical plate at the back of the oven H, through which vapors may be carried into the flues, or, the oven being open, external air may be admitted in order to check the draft through the fire-box. The hinges h^2, which connect the top plate h of the supplemental oven to the stationary top plate D′, are constructed to slide so that the movable plates may be entirely taken away when desired. The front plate h^1 may constitute the door of the oven. Instead of being hinged by its top, as shown, to the top plate D′, the end plate h^3 of the supplemental oven may be constructed with a sliding hinge, h^4, by means of which the entire oven may be swung off the step to one side. This mode of construction is more clearly shown in Fig. 4. The top of the supplemental oven thus constitutes an extension plate or shelf, on which vessels may be set temporarily from the stove top. This supplemental oven will be seen to add to the baking capacity of the stove, and to admit of baking with a small, slow fire in cases where but little baking room is required, and much diffusion of heat would be objectionable. It thus constitutes a means of saving fuel when the use of the main oven is not required. The supplemental oven when not used for baking serves as a hood to confine and conduct to the register m all vapors and smoke arising from the broiling or other cooking on the stove top D. The horizontal grate G of the fire-box may be of any usual construction. Between the lower edge of the stationary front plate g and the horizontal grate is an opening, covered by a vertical sliding plate, g', secured in suitable grooves, and adapted to be elevated so as to admit of removing clinkers with an ordinary poker. The movable plate is operated by means of the shaker-handle, forming at will an opening between the horizontal grate and the front fire-plate, but by having the power to close this opening, I avoid the objectionable feature of anti-clinker grates as usually constructed, to wit, the falling of coal into the ash-pit before it is entirely consumed. The reservoir R is located at the back of the stove, its top being on the level of the top plate D′. Beneath the reservoir R is a warming-closet, I, the flue between them being divided by a horizontal deflecting-plate, F, between which and the back wall of the oven A I provide a hinged damper, J. b is a pivoted damper of cylindrical form occupying the top flue B^1, and constructed with a slot on one side of its center, through which the gases pass when the damper is adjusted in its open position. The slot extends from end to end of the damper, and by locating it on one side of the center I avoid any flattening of the cylinder, and provide a damper which is easy in its movements, and which may still be made to completely close the flue. The damper is operated by a spring-catch, d, held in any desired position by a ratchet, e. I prefer to so construct and locate this damper that the slot or passage through it will be at or about the mid-height of the flue B^1, so that the flame is not thrown in contact with either the top or bottom plate, but is carried through the center of the flue. By closing the damper b in

the top flue B^1, the whole draft from the fire-box is made to pass directly through the siphon-flue B, through the bottom flue B^2 to the back flue B^3. By closing the damper *f* the draft is compelled to follow around the plate F, after which it strikes the bottom of the reservoir, and also acts upon the back of the reservoir, until it leaves the stove. By the formation of a chamber or recess, *r*, between the back of the reservoir and the rear plate of the stove, and in communication with the flues, I considerably increase the heating-surface of the reservoir and avoid the exposure of its rear wall to the outside air.

The following is claimed as new:

1. In combination with the top plate D of the fire-box, and the elevated top D′ of a step-stove, the folding oven H, constructed as herein described, with hinged plates *h* h^1 h^3, adapted to be turned back completely away from the top plate D, as set forth, or to be entirely removed.

2. The combination of the oven A, the front flue B, the fire-box C, located with its top at the mid-height of the said front flue, the folding oven, consisting of hinged plates *h* h^1 h^3, and the register *m*, communicating from the interior of the oven H to the rising portion of the flue B, all as specified.

GEORGE N. PALMER.

Witnesses:

J. R. REID.

OCTAVIUS KNIGHT.