

Levi Hermance's Improvements in Cooking-Stoves.

No. 122,888.

Patented Jan. 23, 1872.

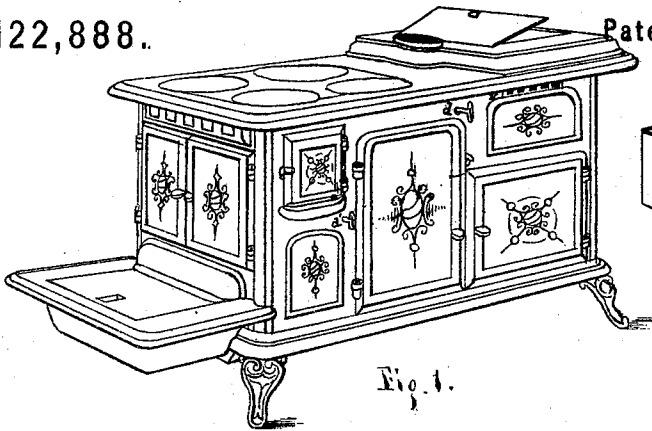


Fig. 1.

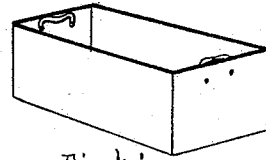


Fig. 4.

Reservoir removed.

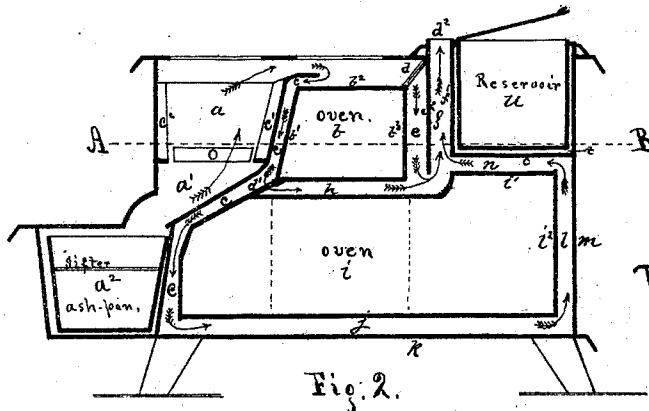


Fig. 2.

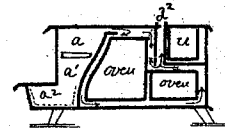


Fig. 5.

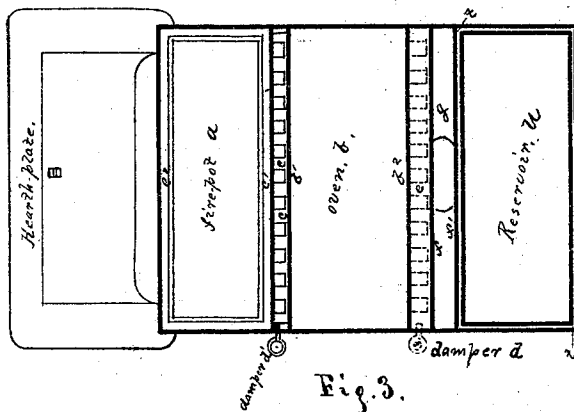


Fig. 3.

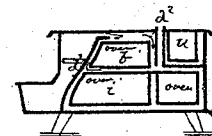


Fig. 6.

Witnesses.

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IMPROVEMENT IN RESERVOIR COOKING-STOVES.

Specification forming part of Letters Patent No. 122,888, dated January 23, 1872; antedated January 12, 1872.

I, LEVI HERMANCE, of the village of Lansingburg, county of Rensselaer, 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 in the arrangement and combination of flues, whereby the operations of cooking, heating, &c., are much facilitated and under better control, a more capacious stove obtained, not occupying more space than other stoves and yet adapted to greater variety of uses, and constructed with greater economy. It also consists in the combination of ovens, there being more than one, as will be hereinafter described. The ovens being so arranged that one may be used separately as a summer oven without heating the other ovens or the remainder of the stove, and baking operations performed with economy of fuel, and obviating the liability of too highly heating the room, a desirable object in summer time. It also consists in the construction and arrangement of a hot-air chamber, situated at the upper back corner of the stove and forward of the rear vertical line of the stove, and entirely within the body of the stove, flues passing between it and the other ovens of the stove. This last chamber or oven is only open at the top, a proper lid or cover being attached to the top stove-plate; and the object of this oven or chamber is for the heating of a sheet-metal reservoir or boiler, which is set down into it when in use; and when the reservoir is removed the oven is useful for other purposes, as desired. The exit-flue of the stove runs up its front wall, and the rear vertical plate of the stove forming its back wall. It also consists in the use of a plate dividing the space between the reservoir-chamber wall and the wall of the summer oven, so that the products of combustion must pass downward under its bottom edge and up its back next to the reservoir-chamber or oven to the exit-pipe. It also consists in the combination of a reservoir formed of tinned sheet copper or other sheet-metal, fitting into the hot air or reservoir-chamber before mentioned, so that a space is left around it, and in such combination that water may be heated therein through the medium of the heat in said chamber or oven.

Description of the Accompanying Drawing.

Figure 1st is a general perspective view of my

cooking-stove complete. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a horizontal section of the same on the line A B, Fig. 2, just above the grate. Fig. 4 is a perspective view of the reservoir alone. Fig. 5 is a vertical section similar to Fig. 2, but showing a different arrangement of ovens. Fig. 6 is a similar section, showing still another arrangement of ovens.

Like letters refer to like or corresponding parts.

General Description.

a is the fire-pot or chamber of combustion, situated in the front of the stove about as usual; ash-slide *a*¹, with ash-pit *a*² below it, all as usual. *b* is the summer oven, situated behind the fire-pot, and having a broad sheet flue between it and the fire-pot *a*. This flue, *c*, has for its front wall the back wall of the fire-pot, marked *c*¹, and for its back the front wall of the oven *b*, marked *b*¹, and *b*² is the top plate of the oven, and above it and between it and top plate of stove is the usual broad sheet flue-space. The back wall of the fire-pot *c*¹ at the top bends backwards, and extends some distance over the oven, over which the products of combustion must pass before entering flue *c*, conveying heat to back boiler-holes and top of oven *b*. A damper at *d* admits the products of combustion to a vertical flue, *e*, between oven-plate *b*³ of oven *b* and wall or plate *f*, dividing it from another vertical flue, *g*, its front wall the plate *f*, and its rear wall a plate, *f*¹, forming the front of reservoir-chamber. Below the oven *b* is a horizontal flue, *h*, and below this is the large or main oven, *i*, its top plate *i*¹ forming the bottom of flue *h*, and its front plate a continuation of the back wall of flue *c*. Below the oven *i* is another horizontal flue, *j*, its top plate being the bottom of oven *i*, and its bottom plate the bottom of the stove *k*. Back of the oven *i* is a vertical flue, *l*, the back plate *i*² of oven *i* forming its front, and the back wall, *m*, being the rear vertical wall or back plate of the stove. The rear portion of oven *i* is higher than the front portion, and has next above it a flue, marked *n*, its bottom being the top plate of oven *i*, and its top plate marked *o*. At *d*¹ are dampered apertures, through which the products of combustion have access from flue *c* to flue *h*. At *d*² is the pipe collar or exit-opening from the stove. At *t* is the reser-

voir-chamber, its front wall the plate f^1 , and its rear wall the back plate of the stove m . This chamber t is for the reception of a water-reservoir or tank, u , which is placed downward therein through a proper opening in the top plate of the stove. The top plate of the stove may be straight or curved, or molded as shown, raised to meet the top of reservoir, which I prefer to have elevated above the level line of stove top. The reservoir is marked u , and a space is left all around the same when it is within the chamber t . The cover thereof may be attached to the reservoir, or it may be hinged to the raised portion of the top plate of stove; and in this case when the reservoir is removed the chamber t becomes a good oven, warming or drying closet, &c. The jambs of the stove form the side walls of the several flues, &c., reservoir-chamber, and also part of oven i . The oven doors are hinged thereto, as usual. The flues are all broad sheet-form, but may be divided longitudinally, if desired. The reservoir u is constructed of copper, well tinned, light, and portable. Suitable handles are provided, so it can be readily lifted out for cleaning and other purposes.

The operation of the stove is as follows: The fire being kindled as usual, the smoke and products of combustion pass over the oven b through dampered openings d , down vertical flue e , to about the bottom of oven b ; then under plate f , upward in the flue g to exit-pipe collar d^2 ; thus forming a direct draught, imparting heat to oven b and reservoir-chamber t , and reservoir u . Next, the damper d is closed, and the products of combustion are turned into flue c downward; the damper d^1 is opened and they enter flue h , pass through the same, and, entering flue g , escape to exit-pipe, a portion of heat extending upward into flue e , thereby surrounding the oven b , heating it completely, and also heating reservoir-chamber t and reservoir u . Next close damper d , and also damper d^1 , and the products of combustion pass through flue c downward, and through flue j rearward, and through vertical flue l upward, and in horizontal flue n forward to vertical flue g , and escape as before, a portion entering flues h and e , and in their course heating

the whole stove, ovens, &c., thoroughly and economically. It will be readily seen that there are advantages in the combinations here presented. A summer oven may be used economically and comfortably, without heating the whole stove, and articles may be cooked in two or more ovens without their flavors uniting, each retaining its peculiar flavor and quality, while a reservoir containing water may be heated at all times. The reservoir may be removed, and its chamber used as an oven, warming-closet or drying closet, as desired; and the reservoir may be set on top of stove over boiler-holes, and used for boiling purposes, if desired, and can be readily cleaned out and kept in order. In Figs. 5 and 6 several ovens are shown as modifications or varieties of the above-mentioned invention. An air-space is shown, dividing the lower oven into two parts. The division is made by two vertical plates, having a space between them closed at the top by the top oven-plate i^1 , or any equivalent thereto, and open at the bottom into the flue beneath the oven at bottom of stove, so that products of combustion may enter said dead-air space but not escape above. In this way a further division of ovens is made, allowing the separate cooking of more varieties of food. The space between is for heating purposes, but is not a flue. It is only a dead-air space.

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

1. In a double-oven cooking-stove, constructed as described, the hot-air chamber t , when used for the purpose of a drying-oven, or for heating the reservoir u , substantially as herein set forth.

2. The plate f or its equivalent, constructed in the manner and for the purpose substantially as specified.

3. The large oven i , small upper oven b , flues c , j , n , and h , and g , dampers d and d^1 , chamber t , reservoir u , fire-box a and ash-pit a^2 , all constructed, combined, and arranged to operate substantially as described and set forth.

LEVI HERMANCE.

Witnesses:

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EDM. F. BROWN.