2 Sheets—Sheet 1.

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Range.

No. 2,990. Patented March 4. 1843.

Fig. 1.

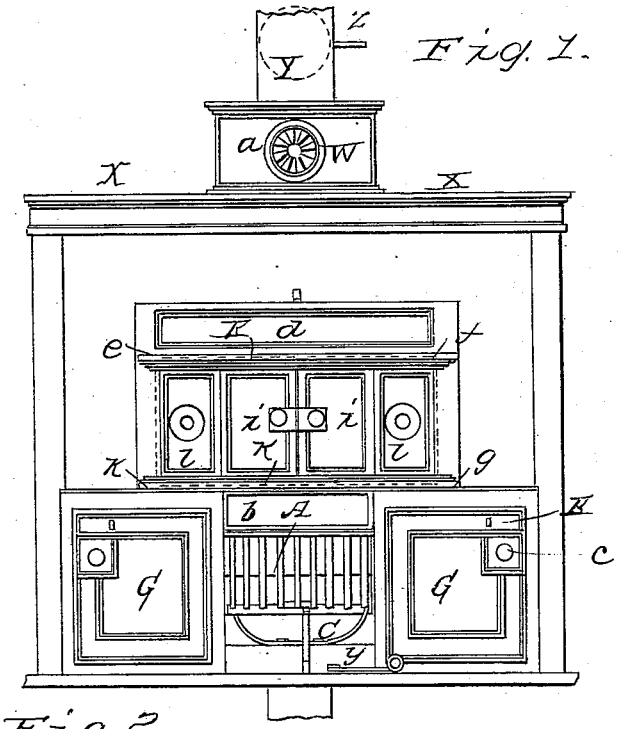

Fig. 2,

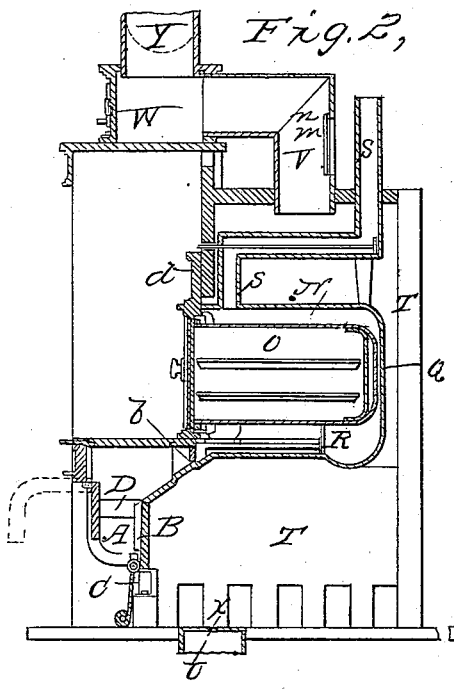

Fig. 3,

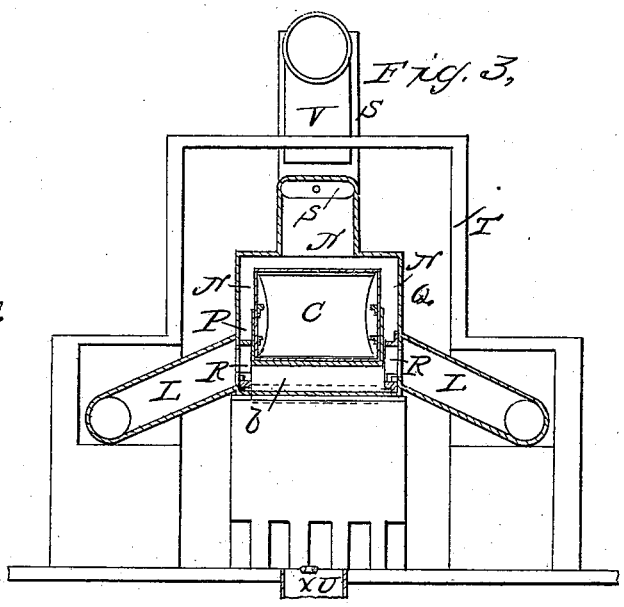

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Fig. 4,

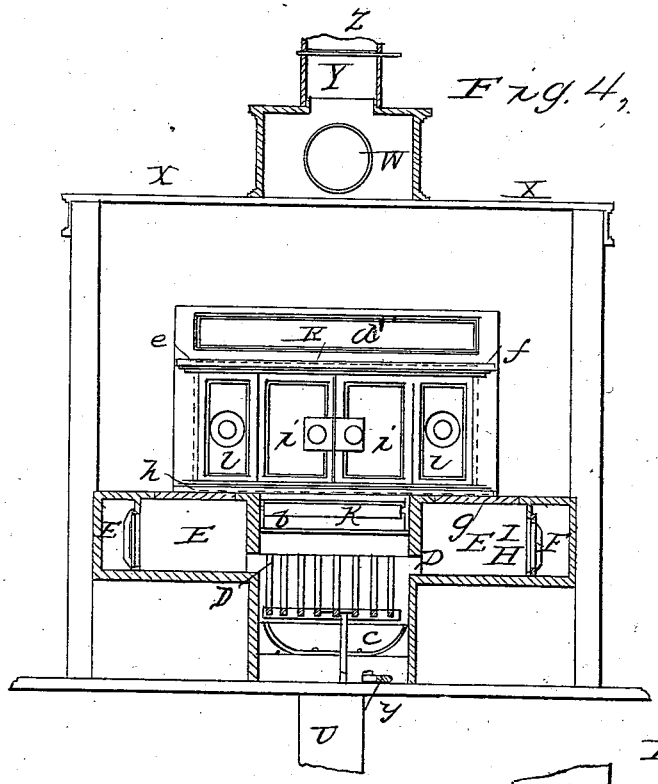


Fig. 5,

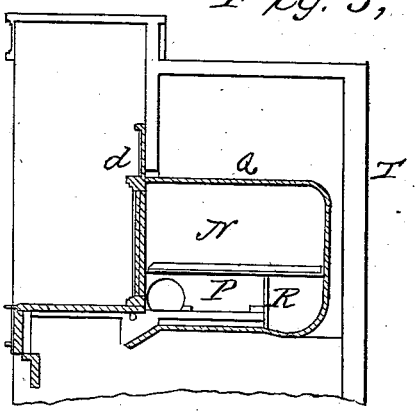
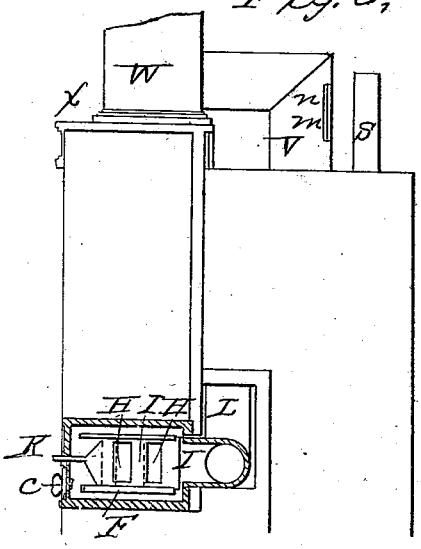


Fig. 6,



UNITED STATES PATENT OFFICE.

MOSES POND, OF BOSTON, MASSACHUSETTS.

COOKING-RANGE.

Specification of Letters Patent No. 2,990, dated March 4, 1843.

To all whom it may concern:

Be it known that I, MOSES POND, of Boston, in the county of Suffolk, in the State of Massachusetts, have invented certain new and useful Improvements in Furnaces for Cooking Articles of Food and for Warming Buildings, and that the following specification of the same, taken in connection with the accompanying drawings, forms a full and exact description thereof.

Figure 1, of the drawings above mentioned represents a front elevation of my improved cooking range and hot air furnace. Fig. 2, is a vertical and central section of the same, taken in a plane, perpendicular to the front face of the range. Fig. 3, is another vertical section taken in a plane passing through the front part of the oven and parallel to the front face of the range. Fig. 4 is a vertical and central section of the boiling chambers and grate taken in a plane which is parallel with the front of the apparatus. Fig. 5, is a vertical section of the casing surrounding the oven, the same being taken in a plane passing through the exterior surface of one side of the oven. Fig. 6, is a vertical section passing through one of the side flues, arranged in one of the boiling chambers, the said section being taken in a plane which is perpendicular to the front face of the apparatus.

A, Figs. 1, 2, represents the fire grate or fuel chamber which is constructed in the ordinary manner, and is supported at its upper corners on journals which permit it to be turned upward into the position denoted by the dotted lines in Fig. 2, the same being for the purpose of discharging the cinders and ashes therefrom, whenever the same may be necessary. The rear part, or cast iron back B, of the fireplace is supported on a stiff metallic spring C, the lower edge of the back plate resting upon the two ends of the spring as seen in Figs. 1, 2, 4. The object of the spring C is to permit the plate to expand vertically by the action of the heat, without injury to itself in consequence thereof. From the fire place the smoke and gases may be caused to pass into the boiling chambers, E, E, through openings, D, D Fig. 4, in the partitions which are situated between the fire space and boiling chambers. Each boiling chamber has an orifice in its top plate, for the introduction of a kettle or boiler, and in this respect is arranged like other similar parts of other cooking ranges in general use. Each boiling chamber communicates with a horizontal and lateral side flue or chamber F (see Figs. 4, 6, the said chamber extending rearward from and at right angles to the front plate G of the apparatus), by means of suitable orifices or openings H, each of which may be closed at pleasure by a damper I, whose rod or handle projects through and beyond the front plate G as seen at K Figs. 1, 6. The chambers F, F, are connected at their rear ends, with inclined pipes L, L, Figs. 3, 6, extending upward therefrom and terminating and opening into the sides of a flue space N surrounding the top, bottom rear end and sides of the oven O. The inclination of the pipes L, L, causes any ashes which may collect therein to fall downward into the horizontal chambers F, F, which may be readily cleaned out at any time, by removing the doors in their front ends. Just above the mouth of each of the inclined pipes, L, L, a horizontal partition P is inserted in the space N, or so as to extend between the side of the oven and the side of the casing Q which surrounds the oven, the said partition extending rearward from the front to the rear of the casing as seen in Fig. 5. Between the mouth of the pipe L and the rear part of the oven, and at a little more than one half the distance from the mouth of the pipe to the rear of the oven, there is a vertical partition R extending from each of the horizontal partitions down to the bottom plate of the casing Q. The peculiar object of these partitions is to cause the smoke and heat to come into contact with a part of each of the sides of the oven, and from thence to pass underneath the oven, so as to heat the sides and bottom of the oven. Were it not for the horizontal and vertical partitions above mentioned, the smoke would take a more direct course to escape and would pass upward over the oven. After passing underneath the oven, the smoke turns upward around its curved back and over its top, and escapes from the space about the oven, through a flue or pipe S, the said pipe extending vertically a short distance, and then turning horizontally at right angles and running rearward for some distance and thence upward into the chimney. The whole of the casing Q together with the inclined pipes L, L, and rear part of the rear plate of the fireplace are suitably incased in a brickwork or sheet iron hot air chamber T Fig. 2, suitably

formed around them, the exterior surfaces of the above parts being exposed so as to heat the air of the said chamber, which is introduced therein through a pipe U communicating with the cellar or room below that in which the apparatus is erected or with the external atmosphere. The pipe U has a damper *x* in it operated by a rod *y*, which extends in front of or below the grate as seen in Fig. 1. Another pipe V Fig. 2, is inserted in the top of the hot air chamber, and after passing upward a short distance is bent forward at right angles and introduced and opens into a rectangular chamber W situated upon the shelf or mantel X of the range. The pipes which are to convey heat to the different apartments to be warmed are to be inserted in or forced from the chamber W, one of the same viz, Y being represented as extending vertically from the top of the chamber.

A damper or valve Z is placed in the pipe Y just above the top of the chamber. There is also another damper or register *a* arranged in the front plate of the chamber W by which when the damper Z is closed, and it (the damper *a*), is open hot air from the chamber T is caused to pass into the room in which the range is set up.

Between the grate or fireplace and space directly under the oven, there is a long damper or valve *b* Figs. 2, 4, which extends from one side of the fire place to the other and turns upon journals or bearings at its ends. This damper is operated by an ordinary iron poker, and when it is turned down horizontally the flame and smoke from the fire-place pass directly into the space below the oven, without passing through the inclined pipes L, L, as before described. Each of the flue chambers F F has a small sliding door *c* fitted into its front end, which may be removed at pleasure for the purpose cleaning the chamber of soot or ashes. The oven door plate *d*, extends across the front of the oven, and the hot air chamber or so as to cover the rectangular space or opening formed through the front of the air chamber T as seen at *e f g h*, Figs. 1, 4. Besides the oven doors *i*, *i*, which slide laterally on rails *k*, *k*, there are other doors or panels *l*, *l*, which close rectangular orifices formed through the plate *d* into the hot air chamber. There is also an opening *m* in the rear of the pipe V, which is closed at pleasure by a sliding valve *n*.

The hot air fixtures are operated in the following manner. In order to admit cold air into the hot air chamber it is necessary to raise the rod *y* of the damper *x* so as to open said damper. If heat is wanted in the kitchen or room in which the apparatus is set up, open the register *a* and close the damper Z. A current of hot air will then flow from the air chamber T into the kitchen. If heat is desired in the room above, the register *a*, is to be closed and the damper Z opened. If the heat is not wanted in either place, the sliding door or valve *n* is to be opened and the register *a* closed. This will cause the heat to pass off through the orifice *m* into the chimney, and if too much heat is radiated from the grate into the room, the doors or panels *l*, *l*, may be opened, so as to cause said heat to pass into the air chamber and from thence into the chimney.

Having thus set forth my invention I shall claim—

1. The particular method by which the heat is caused to circulate against the sides and bottom of the oven, that is to say, by means of the lateral pipes or flues L, L, entering the sides of the casing surrounding the oven, in combination with the horizontal partitions P, P, and vertical partitions R, R, arranged between the oven and its surrounding casing, the whole being constructed and operating as above set forth.

2. Also constructing openings in the oven door plate *d*, on each side of the oven, which openings are closed by doors or panels *l*, *l*, or other similar contrivances, and are for the purpose of conveying the surplus heat into the hot air chamber and from thence into the chimney whenever the said doors are opened, the whole being as before set forth.

In testimony that the foregoing is a true description of my said invention and improvements I have hereto set my signature this twenty-first day of December in the year eighteen hundred and forty-two.

MOSES POND.

Witnesses:
R. H. Eddy,
E. Lincoln, Jr.