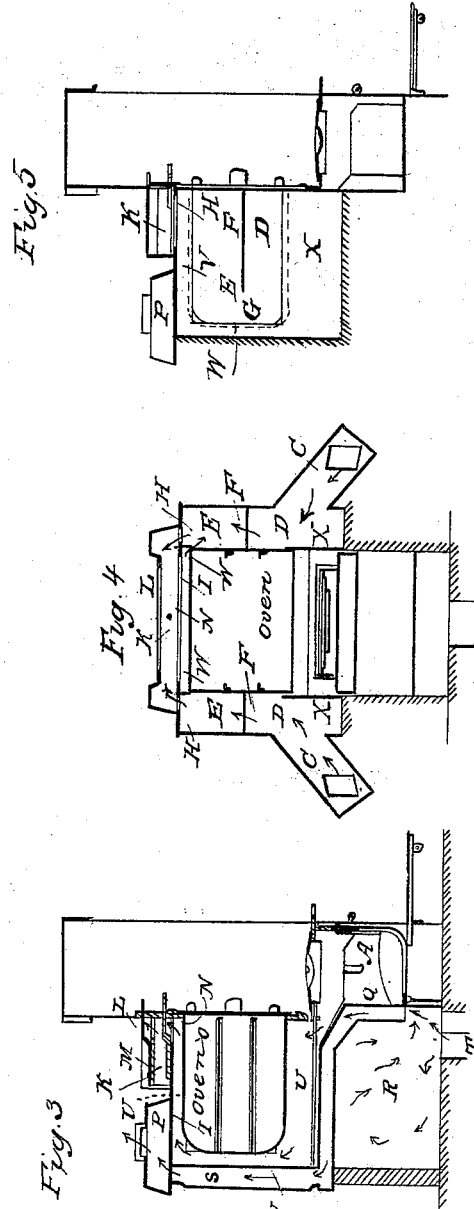
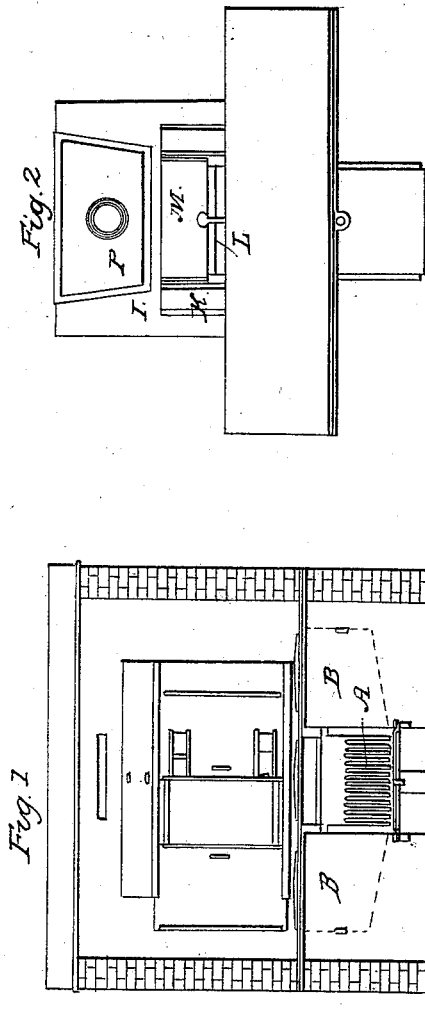


M. POND.
Cooking Range.

No. 4,064.

Patented May 29, 1845.



UNITED STATES PATENT OFFICE.

MOSES POND, OF BOSTON, MASSACHUSETTS.

COOKING-RANGE.

Specification of Letters Patent No. 4,064, dated May 29, 1845.

To all whom it may concern:

Be it known that I, MOSES POND, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Combined Cooking-Ranges and Hot-Air Furnaces, of the construction and operation of which the following description and accompanying drawings constitute a full and exact specification.

Figure 1, of the aforesaid drawings, represents a front elevation of my improved furnace range, for performing the operations of cooking, and at the same time heating one or more other apartments, separate from the one in which the said range is situated. Fig. 2, is a top view thereof. Fig. 3, is a vertical, central, and transverse section of the same. Fig. 4, is a vertical and longitudinal section, taken just in rear of the oven doors, and through the side flues, leading from the boiling chambers, and Fig. 5, is a vertical and transverse section, taken midway between one of the sides of the oven, and the adjacent side of the flue space in contact therewith.

A, (Figs. 1, 3) denotes the fire grate, or chamber for the combustion of the fuel; the said grate having one of two boiling chambers B, B, upon each side of it, and communicating with it, and used in the manner as generally known and practised. Each of the said boiling chambers, has a diagonal or inclined flue C, proceeding from it, and opening into the front part of a flue space D, situated on or against the nearest side of the oven, and extending along and in contact with the lower half of the side of the oven as seen in Figs. 4 and 5. The said flue D, is partially separated from another and similar flue E, by a horizontal plate F, which extends between the two flues rearward, about two-thirds of the length of each of the flues, or, in such manner, as to leave an opening G, for the passage of the smoke from one flue D, to the other flue E, above it. After thus passing backward, upward and forward, in contact with the side of the oven, the smoke passes out of the flue E, at the front thereof, and through an orifice H, cut through the flue plate I, and thence into a horizontal chamber K, arranged upon, and over the flue plate, and having an opening L, through its top, and a sliding damper or flue valve M, to close the said opening or regulate the width of it at pleasure. An-

other and similar opening N, is formed through the bottom of the chamber K, and has a similar damper or flue valve O, applied to it as seen in the drawings. It is intended that the upper opening L, shall communicate directly with the chimney so as to discharge the smoke into the same. A second chamber P, is arranged upon the top of the flue plate I; the said chamber communicating with a wide flue S, which descends from it in a vertical direction, and thence passes beneath the oven and downward in rear of, and in contact with, the cast iron back Q of the fire place, and opens into an air chamber R, formed beneath and in rear of the lower part of the said flue S, and receiving cold air through an orifice T, or any other contrivance suitable to admit the same from the external atmosphere or elsewhere.

As brick work is generally built up in rear of the flue S, all the inner surface of that part of the said flue which comes in contact with the said brick work, should be lined with bright tin plate, or have a polished reflecting surface for the purpose of preventing the absorption of heat by the brick work, and to reflect the same into the current of air which passes upward through the flue S. Between the top, bottom and rear end of the oven, and the flue S, there is another flue U, which receives the heat and smoke directly from the fire place, and carries the same directly in contact with the bottom, rear end and top of the oven, and also with the flue S, in such a manner as to impart heat to both the oven and flue. The smoke after traversing over the top of the oven, escapes through the opening N, and thence into the chamber K, from whence it is discharged into the chimney. The air which passes up the flue S, and is heated therein, is carried from the chamber P, by means of one or more pipes, to such apartments into which it may be desirable to introduce it.

The central smoke flue U, is to be separated from the side flues E and D or those in contact with the sides of the oven, by suitable metallic plates or partitions V, W, X, (the latter being represented in Fig. 5), with this exception, that each of the plates V, V, which project downward from the top of flue plate I, extends about one-half an inch lower than the top of the oven, and about three-sixteenths of an inch from the oven, so as to leave a narrow passage or communica-

tion W, between the side and central flue, through which (passage), when the lower damper is shut, the heat passes or is drawn down from the top of the oven into the side
5 flues, thereby creating a moderate draft of hot air around the bottom, end, and top of the oven, for the purpose of baking in a slow and even manner.

The lower damper O, enables me to only
10 gage or regulate the draft of the current of smoke and hot air, which passes underneath, around the end, and over the top of the oven, while the upper damper M and chamber K, enable me to gage the draft of the
15 two currents rushing through both central and lateral flues, at one and the same time.

I do not claim the introduction of the smoke, heat or other volatile products of combustion, to the sides of an oven of a
20 cooking range, through lateral flues proceeding from the boiling chambers, nor do I claim (as is claimed in certain Letters Patent, numbered 3589 and dated May 17th, 1844,) carrying the lateral flues, or those
25 proceeding from the boiling chambers, directly against the front parts or halves of the sides of the oven, and thence vertically, and thence horizontally over and in contact with the top thereof, and opening the same
30 at the top of the oven into a discharge flue; in combination with carrying the main discharge flue of the fireplace beneath, and in contact with, the underside of the oven, and around and in contact with the rear parts,
35 or halves of its sides and top, (whereby the rear parts of the sides are heated by the central flue, or that proceeding from the grate and under the oven) and thence into the chimney or discharge flue; nor do I
40 claim (as in my Letters Patent, numbered 2990 and dated March 4th, 1843) causing the heat and smoke, to circulate against the sides and bottom of an oven, by means of lateral flues proceeding from the boiling
45 chambers, and entering the sides of a casing surrounding the oven, in combination with two horizontal and two vertical partitions, arranged between the oven and its surrounding casing, by which the smoke and
50 heat are caused to come in contact with the front part, or a portion only of each of

the sides of the oven, and from thence to pass underneath the oven; but

That which I do claim is—

1. The particular arrangement of flues 55 on the sides of the oven, (that is to say, carrying the heat into the front of the lower part of a chamber, on each side of the oven, and making it pass to the rear, by means of a horizontal plate (F), thence upward 60 and over the plate, and toward the front of the chamber, and thence through an opening into the smoke chamber, on the top of the flue plate,) in combination with carrying the central flue of the fire-place, directly 65 under the bottom of the oven, upward and around its rear end, and over its top plate, and thence into the before mentioned chamber in the top of the flue plate, by which arrangement I equally or uniformly spread 70 heat over the whole of the sides of the oven, by the action of the lateral flues alone, and independently of the central flue, and use the central flue for the purpose of heating the bottom, end and top of the oven only; 75 by which improved arrangement of central and lateral flues, I am enabled to gain certain very important advantages, in baking evenly and without burning the articles in the oven, as I can apply a current of smoke 80 and heat, either to the whole exterior surface of the side of the oven, without making it pass against the top, rear end and bottom thereof, and into the chimney, or I can make it pass in contact, both with 85 the sides, bottom end, and top and into the chimney when desirable.

2. Also, I claim in combination with the above the making of a narrow opening or communication, between the side flues and 90 central smoke flues, at the top of the oven, for the purpose above set forth; the same being effected by extending the flange plate (V), down from the flue plate, and away from the oven, as above described. 95

In testimony whereof, I have hereto set my signature, this twenty ninth day of April, A. D. 1845.

MOSES POND.

Witnesses:

R. H. EDDY,
CALEB EDDY.