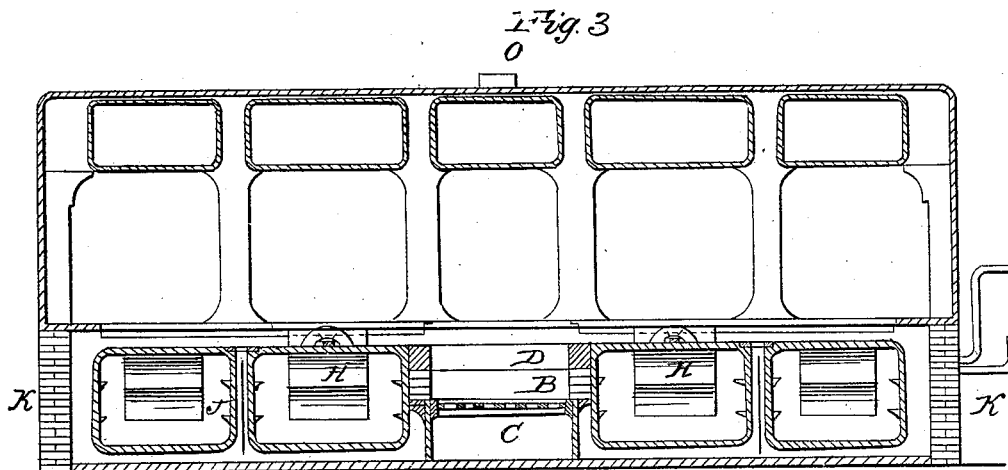
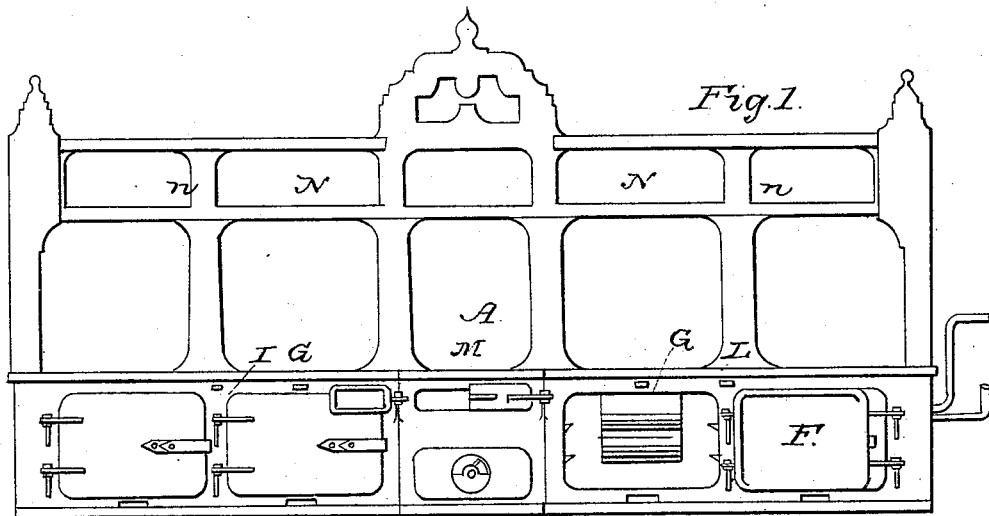


C. J. SHEPARD.

Cooking Range.

No. 47,045.

Patented March 28, 1865.



Witnesses
Geo. F. Gordon
A. Turner

Inventor
Charles L. Shepard
by Asbury Doane Attorney

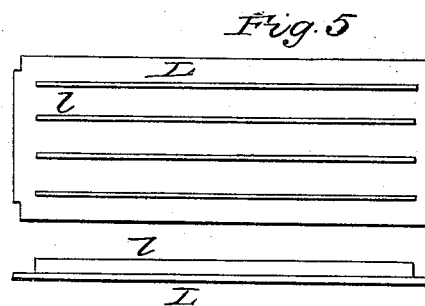
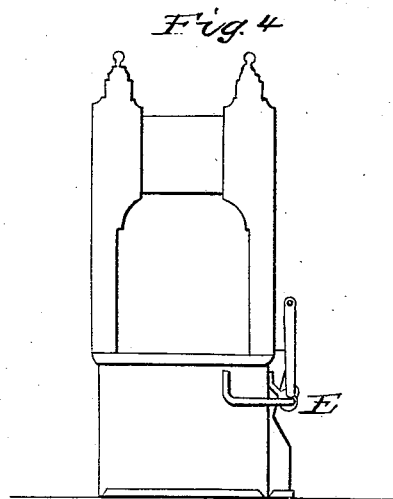
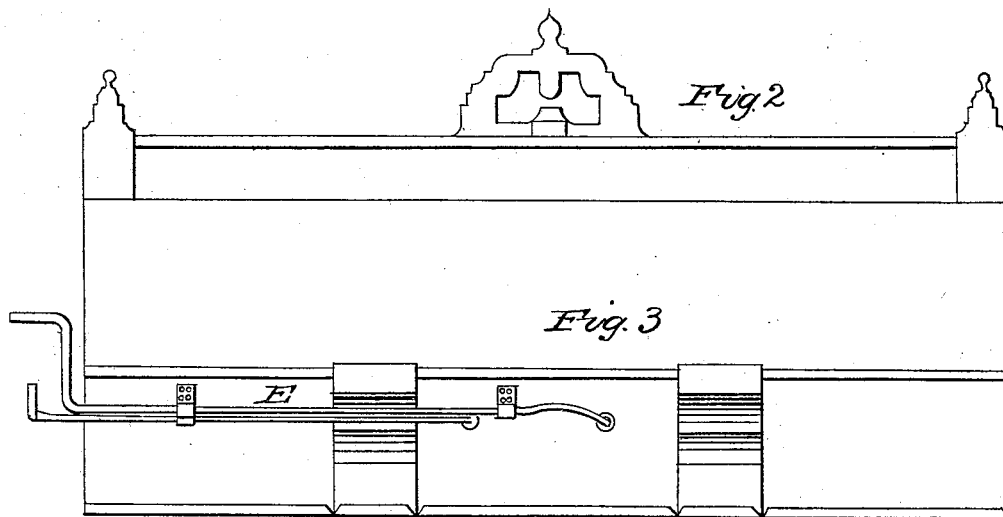
C. J. SHEPARD.

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A. Lurner

Inventor
Charles L. Shepard
by Abner Doane, Attorney.

UNITED STATES PATENT OFFICE.

CHARLES J. SHEPARD, OF BROOKLYN, NEW YORK.

COOKING-RANGE.

Specification forming part of Letters Patent No. 47,015, dated March 28, 1865.

To all whom it may concern:

Be it known that I, CHARLES J. SHEPARD, of Brooklyn, in the county of Kings and State of New York, have invented, made, and applied to use certain new and useful Improvements in the Construction and Operation of Cooking Ranges; and I do declare the following to be full, clear, and correct description of the same, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 a front view of my improved cooking-range; Fig. 2, a back view of the same; Fig. 3, a longitudinal sectional view of the same; Fig. 4, an end view of the same; Fig. 5, a view of the flanged sectional top plates.

In the drawings like parts of the invention are designated by the same letters of reference.

The nature of my invention consists, *a*, in the use or employment of the flanged sectional top plates for the purpose hereinafter fully described; *b*, in the use or employment of the flue-division or diaphragm arranged as shown for the purpose hereinafter specified; *c*, in the use or employment of the slide-valve for the purpose hereinafter set forth; *d*, in the use or employment of the back flue, operated substantially as described; *e*, in the use or employment of the top ovens for the purpose described; *f*, in the use or employment of the bricking at the outer ends of the range for the purpose of preventing radiation.

To enable those skilled in the arts to make and use my invention, I will speak of its construction and operation.

A shows my improved cooking-range, and B is the fire-chamber in which is placed the grate C. Directly over the grate C and within the chamber B is placed the water-back D, communicating with the pipes E, attached at the rear of the range A.

F show the baking-ovens placed upon each side of the fire-chamber B and deriving heat therefrom, as hereinafter explained.

G shows a damper placed directly over the oven F, about midway its length, which damper G opens communication with the back flue, H. This back flue, H, is so arranged as to avoid any interference with the useful space at the back of the oven F by extending or projecting the flue outside the line of the back plate of the range and continuing this

projection up to a point where it cannot interfere with roasting or baking space in the ovens, from that point returning it to the inside of the oven, and when it passes through the top shell of the oven so arranging it as to secure a more complete and useful valve arrangement for a direct connection from the fire to the flue of the chimney, and thence passing it again outside of the line of the back plate. The flue does not then occupy any of the top space of the range useful for boiling and other purposes, and by this arrangement of the flue and valve the effective heat in the oven is greatly increased, as the portion of the flue piercing the upper or top of the oven and inclining to the back of the range is exposed to the direct action of the fire when the damper is closed, and is more exposed to the action of the heat when the fire is first kindled and the valve is open, thereby transmitting its heat by radiation.

I shows a slide-valve over the flue dividing the two ovens, so arranged as to allow direct action from the fire to the flue over which it is placed, the products of combustion being free to pass down each side of the diaphragm J, thus increasing, when desired, the effect upon the oven sides adjacent to the flue or diaphragm J.

J is the flue division or diaphragm, arranged to allow the heated products of combustion passing over, down, and under the ovens to take another action in passing up and down the flue by means of this diaphragm J, thus bringing the heat to bear more effectively on the oven-surfaces in connection with the flue J.

K shows the bricking at the outer ends of the range for the purpose of preventing radiation. This obviates the necessity of brick-work outside to produce that result and makes it more effective and durable.

L shows the top plates, placed directly over the ovens F and provided with the flanged divisions *b* for the purpose of conducting the heat from the fire-chamber B to the extremes of the top plates.

By this arrangement of the top plates L the heat is very much increased, the flanged divisions penetrating and dividing the flue-space, receiving the heat from both sides or surfaces of the flanges, and passing the heat by conduction into the horizontal flat surface of the plates L, so that cooking upon the

plates can be more effectively, expeditiously, and economically done. These sectional top plates, L, may be so constructed as to project over the fire-chamber B, joining in the center or any other point over the furnace, or may extend the entire length of the fixture; but the parts exposed to the immediate intense action of the fire would be soon destroyed for usefulness, and it is preferred to project them far enough to secure useful effect, but not far enough to admit of speedy destruction. This is effected in the present instance by placing at the most destructive point a central or flanged top plate, M, resting at its outer bearings on the front and back top plates, and also resting upon and being supported by the flanged sectional top plates, L. This central plate, M, it is preferred to construct so as to work with a hinged joint at its back end. These bearings of the central plate, M, upon the plate L and front and back flanges prevent its sinking when softened by the intense action of the fire and allow of the greatest usefulness of its top surface. Any of these plates L and M can be provided with boiler-holes, but this would impair their utility. It is therefore preferable to construct them as represented, so as to produce the best effect from the fuel and better equalize the heat for ordinary purposes.

Directly over the top of the range are the top ovens, N'. These ovens are situated over the entire top of the range and receive the radiating heat from the top and the steam from the boilers, and relieve the room from the heat and apply the same usefully for the purpose of keeping the cooked victuals hot.

N shows a series of flues between these

ovens, and O is a pipe from the top flue to conduct the heat after its action on these ovens to a chimney flue.

The bricking interiorly is for the purpose of securing a much more effective flue.

The contracting and expanding of the iron would displace any brick-work on the outside, allow air to circulate in contact with the flue, chill it, and lessen thereby its efficiency.

When the brick-work is placed inside, it absorbs or retains and transmits again to the flue the caloric, thus equalizing its effect, rendering it much more useful and uniform in its action upon the ovens—in fact, producing the effect of brick-work in a baker's oven—where it is heated, the fire drawn, and then the baking done by the absorbed heat acting upon the articles.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The use or employment of flanged sectional top plates, L, for the purpose specified.
2. The flue-division or diaphragm J, arranged as shown for the purpose set forth.
3. The back flue, H, operating substantially as described, for the purpose set forth.
4. The use or employment of the top ovens, N, for the purpose specified.
5. In combination with the flue division or diaphragm J the slide-valve I, for the purpose specified.
6. The interior flue-bricking, K, at the outer ends of the range, for the purpose specified.

CHARLES J. SHEPARD.

In presence of—

J. MENS,

ANDRUS SOMERVILLE.