

J. RAYNEY.

Baker's Oven.

No. 108,517.

Patented Oct. 18, 1870.

Fig. 2.

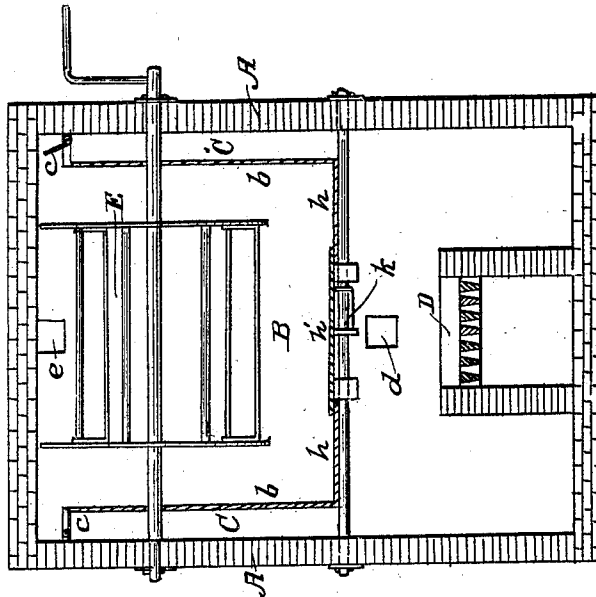
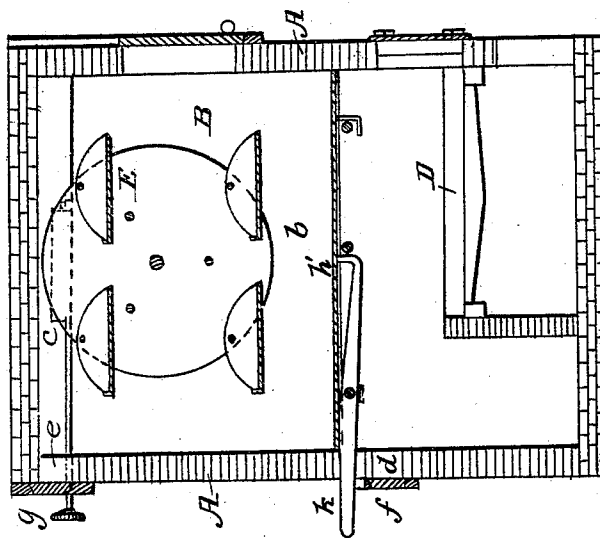


Fig. 1.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN RAYNEY, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN BAKERS' OVENS.

Specification forming part of Letters Patent No. **108,517**, dated October 18, 1870.

To all whom it may concern:

Be it known that I, JOHN RAYNEY, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Bakers' Ovens, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figures 1 and 2 represent sectional elevations, at right angles to each other, of a baker's oven constructed in accordance with my invention.

Similar letters of reference indicate corresponding parts.

My invention relates to what are known as reel-ovens; and consists in a novel combination and construction of parts, whereby provision is made for heating the baking-chamber, either by radiation alone, without passing the smoke, dust, or ashes into said chamber, or by the direct heat of the gaseous products of combustion passing through the oven, and certain advantages as regards expansion and contraction secured, together with facilities whereby wood or soft coal may be burned in such ovens.

Referring to the accompanying drawing, A represents the outer walls or brick-work of the oven, and B the baking-chamber, the sides and bottom of which are made of sheet metal, for the purpose of heating the baking-chamber by radiation.

C C are heating chambers or spaces interposed between the sides *b b* of the baking-chamber and outer walls, A A, said chambers being open at their bottoms, but closed at their tops, below the roof of the oven, by dampers *c c*.

D is the fire-place or furnace of the oven, arranged at a suitable distance below the baking-chamber, and in communication, by a draft-aperture, *d*, with the chimney, by an upper opening, *e*, said openings *d* and *e* being opened or closed, as required, by dampers *f g*.

The bottom of the baking-chamber is made up of three plates, *h, h, and h'*, the middle one, *h'*, being loose, and resting on or overlapping the adjacent plates, which provides for contraction and expansion, and at the same time allows, by the lifting of the center plate, for a through draft from the furnace below, said

center plate, *h'*, being lifted, when required, by a lever, *k*.

Bars *m m m* are run across the oven for the bottom of the baking-chamber to rest upon.

E is the revolving reel of gravitating-trays, on which the bread to be baked is put.

In the operation of the oven, supposing the dampers *c c g* and plate *h'* to be closed, the baking-chamber B will be heated exclusively by radiation through its sides and bottom, and all ashes, dust, and gas prevented from passing into the oven during the process of baking.

In case of burning wood or soft coal, which makes much smoke, the center bottom plate, *h'*, is raised by the lever *k*, whereby the smoke is drawn from the fire-chamber and taken to the chimney by the aperture *e* in the rear wall at the top of the baking-chamber, the direct draft-opening *d* also being open to carry off the smoke from the fire-chamber. The dampers *c c* of the heat-radiating chambers may be opened simultaneously with the lifting of the center bottom plate, *h'*, or separate therefrom, as desired, for a like end or purpose. Except when thus relieving the oven, however, of smoke, the bottom plate, *h'*, and dampers *c c* should be kept closed. Reel-ovens may thus be made, however, to burn wood or soft coal as well as hard coal.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The baking-chamber B, constructed, as described, of side metal plates, *b b*, and bottom plates, *h h h'*, the middle one, *h'*, of which latter is loose and made to overlap the adjacent plates *h h*, in combination with the heat-radiating chambers C C and furnace D, essentially as specified.

2. The combination of the lever *k* and bars *m* with the sectionally-constructed bottom *h h* and *h'* of the baking-chamber.

3. The combination of the dampers *c c* with the side chambers, C C, the metallic sides *b b*, and sectionally-constructed metal bottom *h h h'* of the baking-chamber, the draft-openings *d e*, controlled by dampers *f* and *g*, the fire-place D, and the reel E, substantially as specified.

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Witnesses:

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