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B. A. BAXTER.

OVEN.

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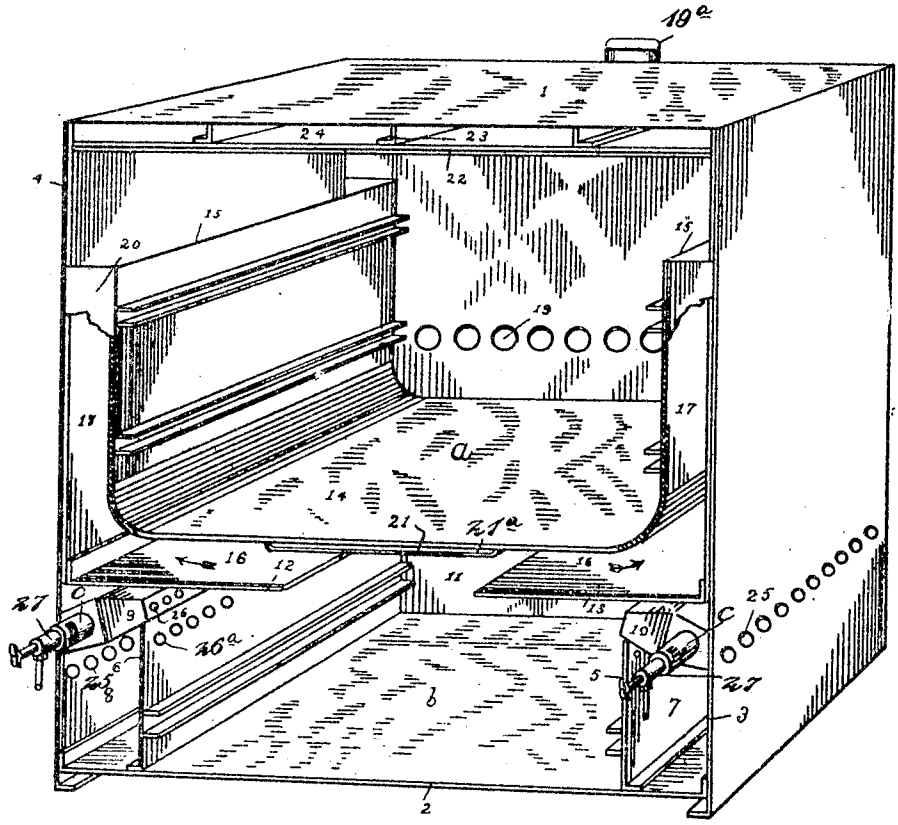

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BERRY A. BAXTER, OF MANSFIELD, OHIO.

OVEN.

No. 849,360. Specification of Letters Patent. Patented April 9, 1907.

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To all whom it may concern:

Be it known that I, BERRY A. BAXTER, a citizen of the United States of America, and a resident of Mansfield, Richland county, Ohio, have invented certain new and useful Improvements in Ovens, of which the following is a specification.

My invention relates to a new and novel method of constructing ovens, and is especially designed for stoves consuming gas for heat radiation.

The construction of ovens for stoves used in the consumption of gases is such that the burners are placed parallel with the front and back walls of the oven and located below and at the center of the bottom. This arrangement does not give satisfactory results, as the heat is not distributed over the surface of the oven uniformly. The ordinary oven is provided with two burners attached in close proximity to each other and located below and at or about the center of the bottom wall. Therefore the heat is more insense at the center of the oven than at any other point, giving unsatisfactory results in its use, because the distribution of the heat is not uniformly and equally distributed.

My invention consists in so constructing an oven as to permit of the burner being secured under deflector-plates attached to the walls of the oven. They are secured to the side walls and extend parallel therewith. This has the effect of directing the course of travel of the flame from each burner toward the opposite burner under the surface of the plates and toward the center of the oven, thence between the top of the plates and the bottom of the oven to the flues communicating with the upper compartment.

Another feature of my oven is the convenience of igniting the burners without the use of a "pilot-light."

I attain these and other objects by the mechanism illustrated in the accompanying drawing, which latter is a perspective view of my oven, the front being broken away to show in detail its interior construction.

Similar reference characters refer to similar parts of the drawing.

In the drawing reference-figures 1 and 2 represent the top and bottom of the oven-frame, and reference-figures 3 and 4 the sides of the frame. The oven is composed of two compartments—*a*, which is used for the purpose of "baking," and *b* for broiling. The lower compartment *b* is provided with upright plates 5 and 6, placed on the bottom of the frame, forming a chamber 7 and 8. Burners 9 and 10 are securely attached to the lower portion of the sides of the frame, extending toward the center of the oven and at an incline therewith. The burners extend parallel with the sides on a plane to the rear wall 11 and are secured to the sides 3 and 4. The apertures *c c* represent the admission-inlets of gas to the burners through the mixers, which are not shown in the drawing. Deflector-plates 12 and 13 are fastened to the side of the frame adjacent to and extending on a plane over the top of the burner toward the center of the oven, forming the lower compartment of the oven and leaving a space between the ends of the deflector-plates. A plate 14, preferably of U shape, with projecting ends 15 15, is suspended over the deflector-plates in such a manner as to leave space 16 16 for the purpose of communicating with spaces 17 and 18, forming a flue for the passage of the gases and heat, which travel in the direction of the arrow into the upper compartment of the oven and out through the aperture 19 to the chimney-flue 19^a.

I prefer to use the U-shape plate, as shown in the drawing at 14, and to secure it to the side walls of the frame by the plates 20, which, in conjunction with the plates 14, form a conduit or flue for the passage and circulation of the heat into the upper compartment from the lower compartment. It will be observed that the ends 15 of the plate 14 do not extend to the upper oven-wall. To counteract the effect of the heat upon the center of the plate 14, I attach an auxiliary plate 21 over the open space of the deflector-plates. An asbestos lining 21^a is placed between the plates to more thoroughly equalize the heat radiation.

An extra top 22 with braces 23 is provided for the purpose of leaving an air-space 24 to prevent the top from warping. The apertures 25 supply air to the burners. When the burners are in use, they are ignited at the point of combustion, the gas being supplied through apertures *c c*. The air for mixing passes through the apertures 25 to the point of combustion, and a flame is emitted through the apertures 26 over and under the surface of the deflector-plates to the ends thereof, from which point it is drawn backward by the draft through the open space 16 16, which communicates with it and forms part of the flues 17 and 18, leading directly

into the upper compartment. The flues or passage-ways 17 18 extend along the sides of the oven at right angles with the front the full length of the burners and being in direct alinement therewith draws the heat units radiating from the burners through the medium of the draft under and around the ends 15 of the plates 14 to the passage-ways referred herein, thence downward into the oven, and out through the chimney-flue 19ª. This arrangement provides a means for conducting the heat units into the oven and distributing and radiating the heat in equal and uniform quantities and prevents the heat from "bunching" or concentrating at one point, as is common in the use of the ordinary oven and burner. The apertures 26ª in the plates 5 and 6 permit the air from the apertures 25 to pass into the lower compartment *b* and mix with the gas conducted into the burners 9 and 10 and flowing out through the apertures 26 in the burner. Ordinary inlet-valves and mixers 27 are secured to the apertures *c*, provided in the ends of the burners.

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

1. An oven for gas-stoves composed of a casing substantially rectangular in form, plates secured to the bottom and spaced apart from the side walls, burners secured to the side walls of the frame extending the full width of the side walls with the free ends resting on the ends of the plates, deflector-plates extending horizontally toward the center leaving a space between their ends.

2. An oven having burners fitted to the lower portion of the side walls of the frame running parallel therewith, plates secured to the bottom of said frame forming a support for the extending ends of the burners, deflector-plates attached to the side wall of the frame and extending toward the center of the oven, a plate having upwardly-projecting ends secured to the upper portion of the oven-frame leaving a space between the bottom surface thereof and the top of the deflector-plates forming part of a flue, substantially as described.

3. In an oven for gas-stoves, burners fitted to the lower portion and extending parallel with the side walls, deflector-plates secured to said side wall above and adjacent to said burners extending on a plane toward the center leaving a space between their ends, a plate having upwardly-extending projections attached to the frame above said deflector-plate, said plate and deflector-plates forming flues so arranged as to draw the flame of the ignited gas along the lower surface of the deflector-plates around the flues and over the top into the upper compartment.

4. In an oven composed of two compartments, burners fitted to the side walls parallel therewith, deflectors secured to said walls, a plate suspended above said deflector-plates in such a manner as to form a passage for the gases and heat to the upper compartment, and an auxiliary plate secured to the center of said suspended plate.

5. In an oven, a casing, plates spaced apart from the side walls forming a chamber, burners secured to the side walls and extending parallel therewith the full width, with their ends resting on the top of the plates, deflector-plates secured to the side wall and extending over the burners toward each other leaving a space between their ends, a plate attached to the wall of the oven and suspended over the deflector-plates and in conjunction therewith forming flues for the passage of heat into the upper compartment.

6. In a gas-stove the combination, with a casing; of an oven, burners secured to the side walls of the casing extending the full width, plates secured to the bottom of the oven with their ends adapted to support the free ends of the burners, deflector-plates located above the burners, a plate suspended over the deflector-plates having its ends bent upward and terminating near the top of the oven, an upper compartment of the oven provided with orifices for the escape of the products of combustion.

7. In an oven for gas-stoves, a casing, plates secured to the bottom, burners secured to the side walls with the free ends extending toward the center and resting on the ends of the plates secured to the side walls, a substantially U-shape plate suspended over the deflector-plates forming flues whereby the heat is conducted under and around the ends of the deflector-plates into the upper compartment of the oven.

Signed at Mansfield this 19th day of August, 1905.

BERRY A. BAXTER.

Witnesses:
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