

W. J. BEST.
GAS RANGE OVEN.
APPLICATION FILED SEPT. 8, 1908.

942,128.

Patented Dec. 7, 1909.

Fig. 1.

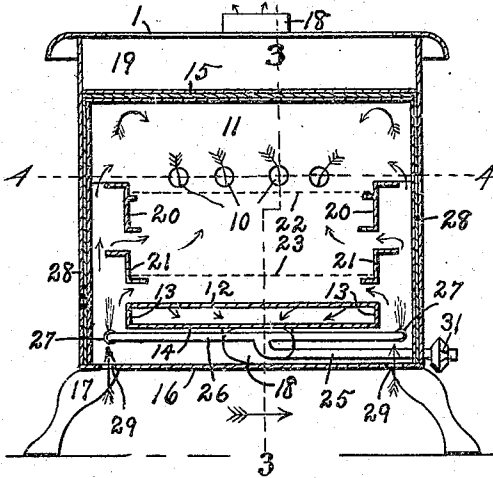
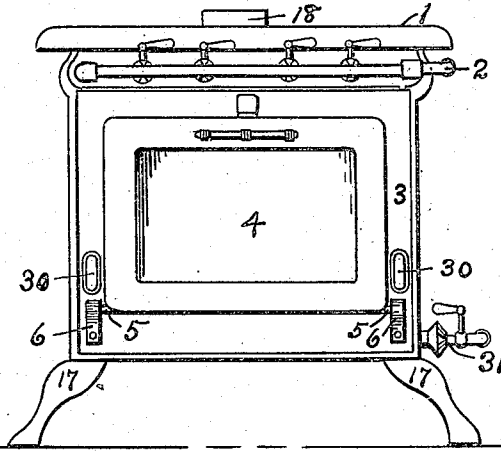


Fig. 2.

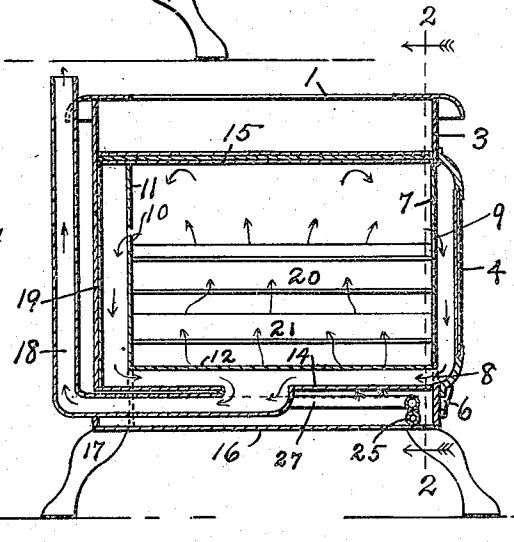


Fig. 3.

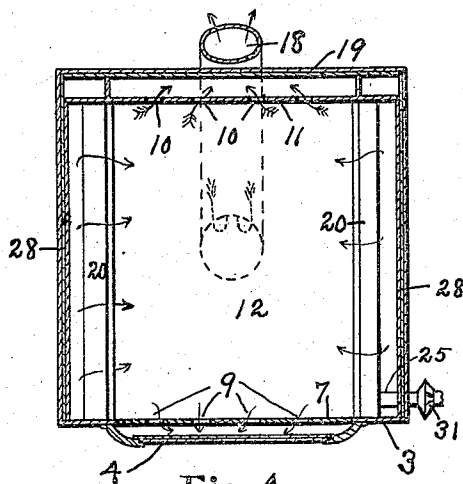


Fig. 4.

Witnesses

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GAS-RANGE OVEN.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM J. BEST, a citizen of the United States, and a resident of Detroit, in the county of Wayne and State of Michigan, have invented a new and Improved Gas-Range Oven, of which the following is a specification.

The object of my invention is to provide an improved gas range oven so constructed that the heated air and the products of combustion are admitted thereto in practically the same quantity and proportion through both sides and escape in practically the same quantity and proportion through the back as through the front and are conveyed down to a space at the bottom of the oven and thence out, thus giving economy in the use of gas and rendering the opposite sides of the oven of practically the same temperature.

In the accompanying drawings, Figure 1 is a front elevation of a gas range embodying my invention. Fig. 2 is a vertical cross section on the line 2—2 of Fig. 3. Fig. 3 is a vertical cross section on the line 3—3 of Fig. 2. Fig. 4 is a longitudinal cross section on the line 4—4 of Fig. 2.

Similar reference characters refer to like parts throughout the several views.

This invention is limited to the construction of the oven which may be constructed independent of the other usual parts of a range or in connection therewith, and may be connected to any desired type of range at any location. In the drawings, however, I have shown the oven constructed as the base of a range whereof the top 1 may have burners of any desired type supplied with gas by means of the pipe 2. In this description I refer to the exterior shell as the casing, and to the interior shell as the oven. The front 3 has an opening adapted to be closed by the door 4, provided with pins 5 mounted in the lugs 6 secured to the front. This door is in the form of a shell, having an inner plate 7, below which is an opening 8 extending across the width of the door, and in which plate 7 are a row of openings 9 similar to the openings 10 in the back plate 11 of the oven.

The bottom of the oven is formed by an imperforate plate 12, the front edge of which is designed to contact with the lower edge of the inner plate 7 of the door, while the rear edge joins the plate 11. Its side

edges are bent down as shown in Fig. 2 to form the strips 13, which in turn connect to the plate 14. The top 15 of the oven and casing is preferably some poor conductor of heat, made in any desirable manner, such as a sheet of asbestos between two thin sheets of steel, or the asbestos may be omitted. The base plate 16 of the casing rests on the legs 17. An escape pipe 18 for the waste gases connects to the lower side of the plate 14 at its middle point, passes rearwardly between this plate 14 and the base plate 16, out through the rear plate 19 of the casing and then up, having any desired length and connection at its upper end.

Extending between the front 3 of the casing and the inner plate 11 of the back of the oven, on each side, are two brackets 20 and 21, adapted to support the removable shelves which are indicated by dotted lines at 22 and 23. The upper parts of these brackets are bent out at right angles to regulate the proportion of heat passing upwardly.

The gas enters through the transverse pipe 25 near the front of the base of the oven, which pipe then turns up and connects to the middle portion of the pipe 26, from the ends of which the burner tubes 27 extend toward the rear, parallel to the side plates 28. Openings 29 in the base plate 16 provide air for the burners. Windows 30 allow the operator to watch the flames which may be regulated by the valve adjacent to the mixer 31.

The operation of this oven is as follows. The heated air and the products of combustion ascend from burner tubes 27 into the spaces between the brackets 20 and 21 and the sides of the casing 28, then enter the oven, then pass from the oven through the opening 9 in the inner plate of the door and the openings 10 in the plate 11, then pass down into the space below the plate 12, and then pass out through the pipe 18.

The advantage of this construction is that opposite sides of the oven will be practically uniformly heated, thus avoiding all necessity of shifting the food to secure uniform baking. As the lower portion of the oven is kept at a high temperature by the products of combustion passing down and around the same, thus imparting heat thereto which was formerly wasted, the oven is very economical in the consumption of gas.

Having now explained my improvements, what I claim as my invention and desire to secure by Letters Patent is:—

1. The combination of a casing, an oven
5 within the same and spaced therefrom, said oven having perforated side and rear walls, a door forming the front of the oven and comprising an imperforate outer plate and a perforated inner plate separated there-
10 from, a plate having a central opening mounted between the bottom of the oven and the base plate of the casing and separated from the former by a space which connects with the spaces at the rear of the
15 oven and in the door, burners at the lower edge of the sides of the oven, the products of combustion entering the oven through openings in its sides and passing out through openings in its back and in the door, thence
20 down into the space below the oven; and a pipe to convey the waste gases from below the oven out of the casing.

2. The combination of a casing, an oven
25 within the same and spaced therefrom at sides, back and bottom, the side and rear walls of said oven being perforated, a door for said oven extending below the bottom plate thereof, said door comprising an imperforate outer plate and an inner plate
30 perforated to permit passage of gases from the oven to the space below the oven, burners in the spaces between the walls of the oven and the casing, the products of combustion passing from the burners through the side
35 walls into the oven and through the back wall and inner plate of the door out of the oven, then down into the space below the oven, and a pipe connecting into the space below the oven to convey products of com-
40 bustion therefrom.

3. The combination of a casing, an oven
within the casing and separated therefrom by side, back and bottom flues, a door for
45 said oven, burners in the lower ends of the side flues, said oven having openings in its sides to communicate with the side flues and in its back to communicate with the back flue, said back flue communicating with the bottom flue, and a pipe connecting into the
50 bottom at substantially the middle of the same.

4. The combination of a casing, an oven
within the casing separated therefrom by side, back and bottom flues, a door for the
55 oven and casing formed of plates to consti-

tute a flue connecting to the bottom flue and oven, burners in the lower ends of the side flues, said oven having openings in its sides to communicate with the side flues and its back perforated to communicate with the
60 back flue, said back flue communicating with the bottom flue, plates separating the side flues from the bottom and back flues, and a pipe connecting into the bottom flue.

5. The combination of a casing, a burner
65 within the casing, an oven within the casing having imperforate top and bottom and perforated sides and back, said oven spaced apart from the back, sides and bottom of the casing, plates separating the spaces at the
70 sides of the oven from the spaces at the back and bottom of the oven, a door having an inner space communicating with the oven and the space below the oven, and a pipe communicating with the space below the
75 oven.

6. The combination of a casing, an oven
within said casing having openings in its side and back plates which plates are separated from the casing, a door for said oven,
80 a plate parallel to the bottom of the oven and separated therefrom, the space between the bottom of the oven and said plate communicating with the space at the back of the oven, plates separating the spaces at the
85 sides of the oven from the spaces at the back and below the oven, a pipe communicating with the space below the oven, and burners in the lower portions of the spaces on the sides of the oven.
90

7. The combination of a casing, a burner
95 within said casing, an oven within said casing having openings in its back and sides, and spaced from the sides, back and bottom of the casing, the products of combustion
100 entering the oven through its sides, a door for said oven having a passage, the products of combustion dividing, part of the same passing down the back of the oven and the remainder through the door to the space below the oven, and means to conduct the products from the casing.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

WILLIAM J. BEST.

Witnesses:

EDWARD N. PAGELSEN,
ELIZABETH M. BROWN.