

979,413.

W. J. BEST.
OVEN.
APPLICATION FILED DEC. 15, 1909.

Patented Dec. 27, 1910.

2 SHEETS—SHEET 1.

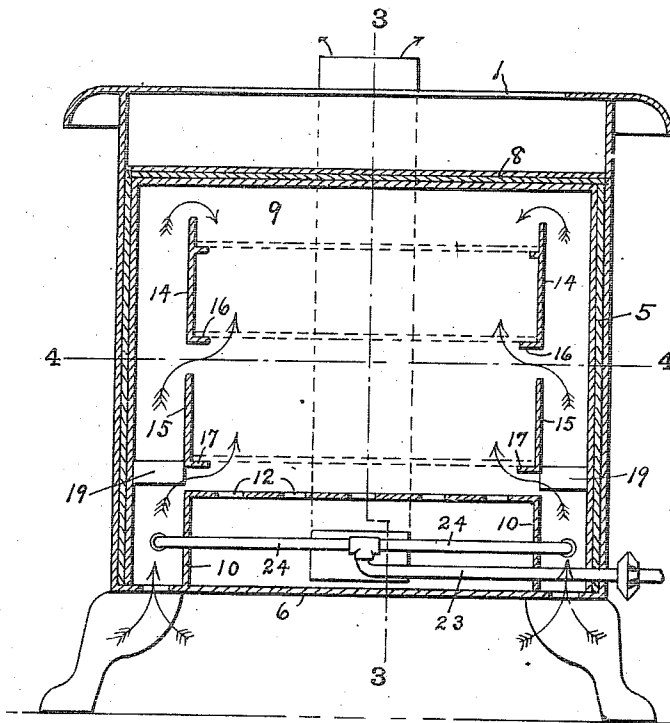
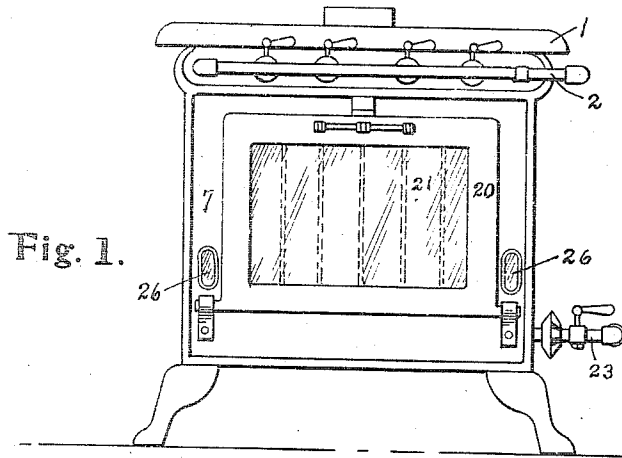


Fig. 2.

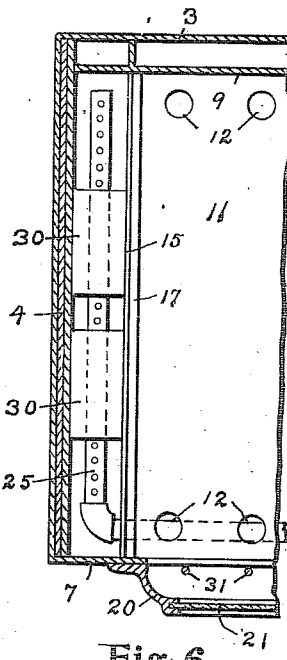


Fig. 6.

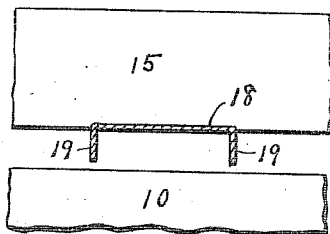


Fig. 7.

Witnesses

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2 SHEETS-SHEET 2.

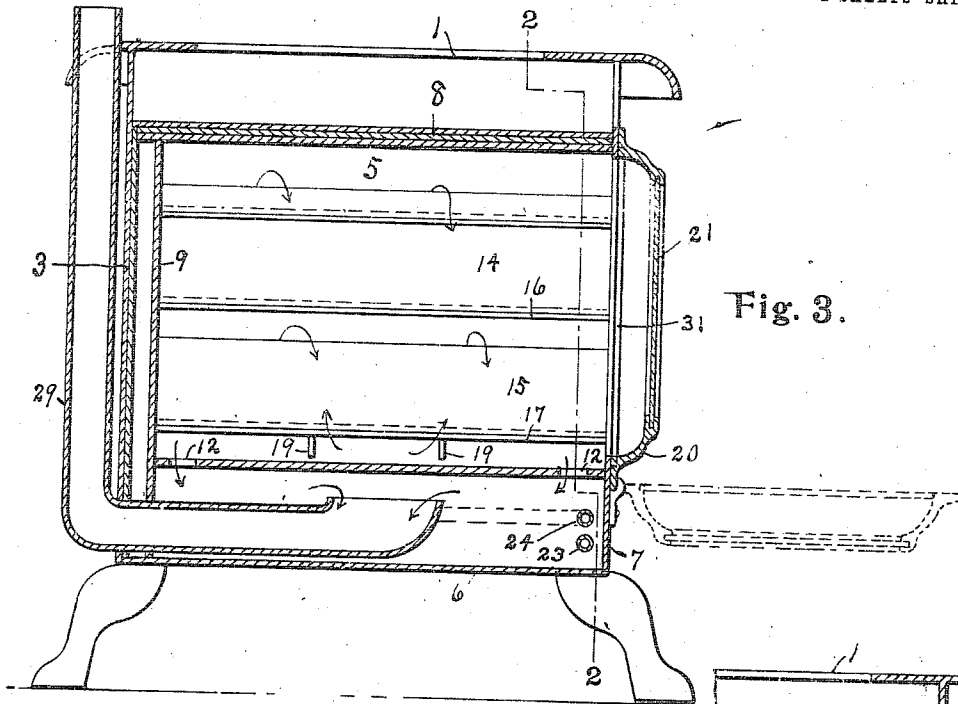


Fig. 3.

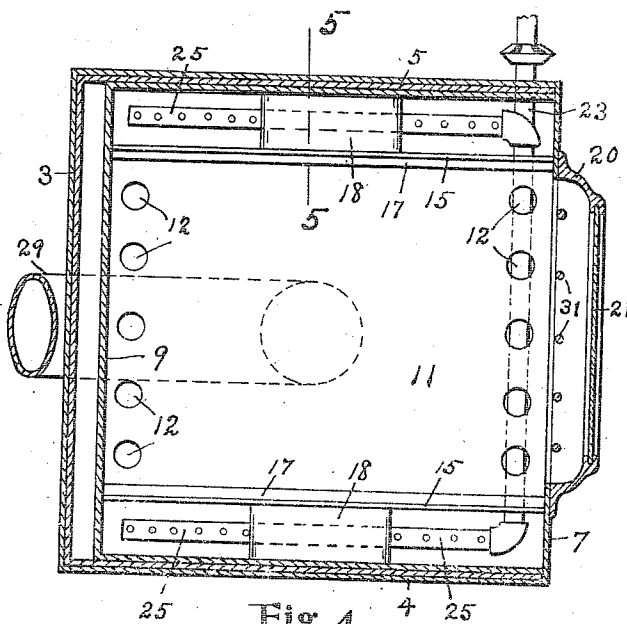


Fig. 4.

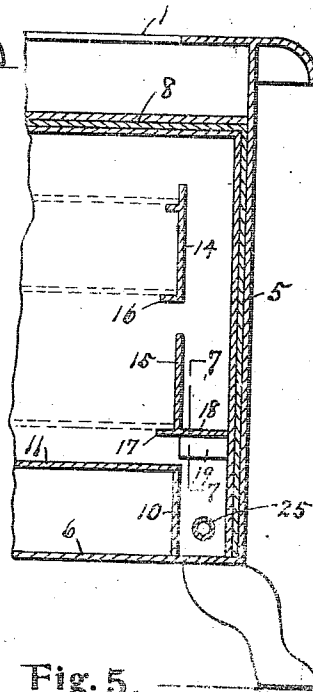


Fig. 5.

Witnesses

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979,413.

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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 Oven, of which the following is a specification.

This invention relates to gas ranges and its object is to provide a range oven so constructed that the heated air and products of combustion are admitted thereto in practically the same quantity and proportion through both sides and escape therefrom in practically the same proportion through openings at the back and front of the bottom, thus insuring a practically even temperature throughout the oven and giving economy in the use of fuel.

In the accompanying drawing, Figure 1 is a front elevation of a gas range embodying this invention. Fig. 2 is a vertical transverse section on the line 2-2 of Fig. 3. Fig. 3 is a vertical longitudinal section on the line 3-3 of Fig. 2. Fig. 4 is a horizontal longitudinal section on the line 4-4 of Fig. 2. Fig. 5 is a vertical transverse section on the line 5-5 of Fig. 4. Fig. 6 is a partial horizontal transverse section of a range slightly different in details of construction from that shown in Fig. 4. Fig. 7 is a vertical cross-section on the line 7-7 of Fig. 5.

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

The drawing shows a range having the well known top 1 and fuel pipe 2. As this fuel pipe forms no part of this invention it is omitted in all but Fig. 1. In this specification the exterior shell will be termed the casing, and the interior shell will be termed the oven.

The casing is formed of a back 3, sides 4 and 5, a bottom 6, and front 7. The top 1 is preferably supported by the back and sides of the casing. The oven has a top 8, preferably of several thicknesses of sheet metal separated by a sheet of asbestos or other poor heat conducting material, and the casing sides 4 and 5 are preferably similarly formed. The back 9 of the oven is separated from the back of the casing and connects to its sides and bottom. Plates 10 extend from the bottom of the casing to the side edges of the oven bottom 11, which

has perforations 12 near its back and front for the escape of the heating medium.

Extending between the front 7 of the casing and back plate 9 of the oven to form the sides of the oven are plates 14 and 15, having inwardly extending flanges 16 and 17, to support racks or plates to receive the food to be cooked. Between the plates 15 and the sides of the casing are deflector plates 18, preferably formed with down turned flanges 19. The front plate of the casing joins the top and bottom of the oven, and the opening in this plate is normally closed by the door 20, which may be provided with a glass plate 21.

Extending into the space below the oven is a fuel pipe 23 having branches 24 which connect to the rearwardly extending burner tubes 25 near the bottoms of the side flues. Small windows 26 in the front admit of the burning of the gas being observed. Air for the burners can enter through openings in the bottom of the casing shown in Fig. 2.

The operation of the oven is as follows. The burners being lighted and the door closed, the heated air and products of combustion will pass upward, a portion striking against the plates 18 and being deflected inwardly between the bottom plate 11 of the oven and the flange 17 at each side. The other portion will pass up and into the oven, a portion through between the plates 14 and 15 and the remainder above the plates 14. The hot gases which enter below the deflector plates 18 will cause eddies in the oven, resulting in an even temperature. The gases finally escape through the holes 12 in the bottom plate and enter the space below the oven. A pipe 29 extends into this space and has an inlet opening preferably in its upper side and preferably near the middle of the bottom of the oven. The gases will therefore pass in practically equal quantities through the holes 12 at the back and at the front of the oven, again assisting in maintaining an even temperature throughout the oven.

To protect the glass 21 in the front of the concave door, and also to serve as a shelf when the door is opened to the position shown in dotted lines in Fig. 3, a series of vertical bars 31 may be mounted at the inner face of the frame of the door. Round rods are preferred although any other desired

type of grating may be employed. Instead of one plate 18 at each side over the burner tubes 25, a plurality of plates 30 may be employed as shown in Fig. 6. Many other changes in the details of construction may be made by those skilled in the art without departing from the spirit of my invention.

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 within the casing and spaced therefrom, said oven having perforations in its bottom near each end, a door forming the front of the oven, the sides of the oven having longitudinal openings to admit the products of combustion, burners at the lower edges of the sides of the oven, deflector plates positioned over the burners to cause a portion of the products of combustion to enter the oven at the bottoms of its sides, and a pipe extending to the middle of the bottom of the oven to carry away the products of combustion which escape from the oven through the holes in its bottom.

2. The combination of a casing, an oven within the casing and spaced therefrom, said oven having openings in its bottom near each end and longitudinal openings in its sides, burners at the lower edges of the sides of the oven, deflectors for causing a portion of the products of combustion to enter the oven near the bottom, and a pipe extending into the space below the oven

wherethrough the products of combustion, after entering the oven through the sides and passing out through the bottom, may escape.

3. The combination of a casing, an oven within the same and spaced therefrom at its sides, burners at the bottom of the spaces between the sides of the oven and casing, the sides of the oven having openings near the bottom and top, and deflector plates mounted above the openings near the bottom of the oven and having down-turned edges to compel a portion of the products of combustion to enter the oven near its bottom.

4. The combination of a casing, an oven within the casing and spaced therefrom at its sides, burners at the bottom of the spaces between the sides of the oven and casing, the sides of the oven having openings at the bottom of the oven and above the same, deflector plates of less length than said oven extending between the sides of the oven and the casing just above the lower openings to compel a portion of the products of combustion to enter the oven at the bottom and permitting the remainder to ascend and enter through the upper openings.

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.