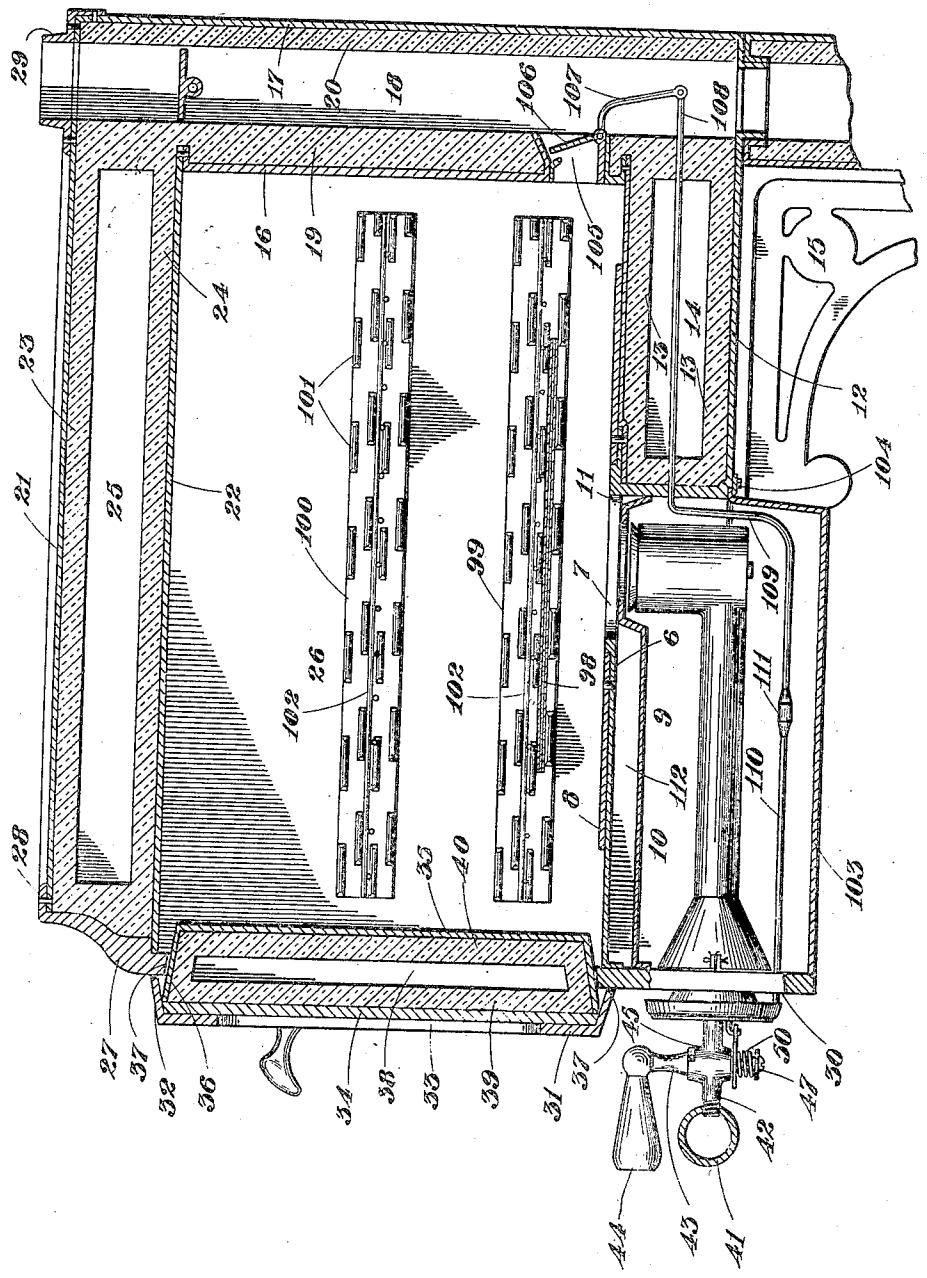
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J. H. BEEBY

OVEN

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INVENTOR

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UNITED STATES PATENT OFFICE.

JOHN H. BEEBY, OF OTTAWA, ONTARIO, CANADA.

OVEN.

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To all whom it may concern:

Be it known that I, JOHN H. BEEBY, a citizen of the United States, residing at Ottawa, in the county of Carleton and Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Ovens, of which the following is a specification.

The present invention relates to the provision of a heat retaining oven adapted for use in conjunction with a coal, wood or gas burning stove, and it is within the province of the disclosure to provide an oven in which heat is generated through the medium of the combustion of gas to produce the required temperature which will be maintained for a considerable time after the cessation of the burning of the combustible elements.

A further object of my invention is to provide a gas burner adapted for successful operation in conjunction with a heat retaining oven.

A further object is to provide a gas burner embodying a gas valve and primary and secondary air valves, the operation of which gas valve will control the operation of the said primary and secondary air valves synchronically.

Another object of my invention is to provide a gas burner adapted for successful operation in conjunction with a heat retaining oven, which oven is provided with a damper controlled opening for the egress of spent gases, the said damper being controlled in synchronism with the gas, primary and secondary air valves of the said gas burner.

Another object of my invention is to provide a gas burner constituting a gas valve having air inlets disposed in proximity thereto, which direct the air past the inner end of the gas valve at acute angles in relation to the direction of the egress of the gas therefrom to form confluence of the combustive elements.

A further object of my invention is to provide a gas burner having a spreader adjustably positioned at the discharge end thereof, which spreader acts as a protective member and provides a controlling means for the egress of the combustible elements.

Among other aims and objects of my invention may be cited the provision of a heat retaining oven and heat generating means, with a view to compactness, economical construction and operation, durability and symmetry.

These and other objects I accomplish by means of such structure and relative arrangement of component parts, as will readily appear after a perusal of the following description, the descriptive matter being supplemented by the accompanying schematic illustrations, wherein:

The drawing is a vertical medial section through an oven constructed in accordance with my present invention, parts remaining in elevation and sundry elements being illustrated diagrammatically.

The base, top and three walls of the oven are preferably constructed of sheet metal encasing insulation and dead air spaces, thus forming a heat retaining chamber conventionally termed an oven, access to which may be had through an insulated door. The base of the oven constitutes the cast sheet metal plate 6 which is provided with an approximately central opening 7. The plate 6 is substantially reinforced by the plate 8 to prevent warping and buckling of the same, due to contraction and expansion. In medial alignment intermediate the plate 6 is disposed a rectangular burner chamber 9 formed of the downwardly extending walls integral with the plate 6, one side wall being designated by the numeral 10 and the end wall thereof by the numeral 11.

Integral or substantial with the lower extremities of the said walls is the bottom plate 12, intermediate which is positioned insulation 13 extending over the base of the oven thus constructed and having a dead air space 14 formed therein. The bottom of the oven will be made stable by dual brackets disposed on each side of the stove, a portion of one being shown and designated by the numeral 15. The back of the oven constitutes the inner sheet metal wall 16 and the outer sheet metal wall 17 having medially disposed and extending vertically intermediate the sheet metal walls, the flue 18 having the insulation as designated by the numerals 19 and 20 at both sides of the same. The back wall of the stove laterally of the flue 18 is congruent to that of the bottom of the stove.

The top of the stove constitutes the upper and lower sheet metal plates 21 and 22 having insulation disposed intermediate the same as designated by the numerals 23 and 24 and being provided with the dead air space 25. The sides of the stove, one of which is designated by the numeral 26, are

constructed in a similar manner to the top of the stove.

To form a symmetrical construction, the oven front is finished with a cast periphery 27 having an inwardly extending portion 28 to which the sheet metal plate 21 is riveted and having integral therewith the shoulder 29 forming a means whereby a stove pipe may be fastened over the flue 18. The face plate of the stove is designated by the numeral 30. This face plate is insulated on both sides of the chamber 9 in a suitable manner.

The door of the oven constitutes the outer plate 31 having the offset flange 32. In the outer plate 31, a suitable opening 33 is formed and has disposed at the rear thereof the plate 34 which may be ornamentally constructed, if desired. The numeral 35 designates the inner plate of the door provided with the flange 36 which is disposed at an acute angle in relation to the vertical face of the plate 35. This angularly disposed flange 36 is contiguous with the inner edge 37 of the face plate 30, thus providing a wedge-like construction, affording a means of preventing undesired passage of heat. Disposed intermediate the plates 31 and 35 is the dead air space 38 encased by the insulated walls 39 and 40 which are connected at the outer edges thereof as diagrammatically illustrated.

From the foregoing description, it will be readily discerned that I have provided an oven which will retain the heat for a considerable length of time. This oven is heated by gas which is mixed with air and the combustible elements so formed pass from the burner illustrated. The oven is provided with the gas inlet pipe 41 which extends along the front of the oven. Threadedly engaged with this gas inlet pipe 41 is the gas inlet pipe 42 having a valve disposed intermediate its terminals which provides a controllable communicative means for the supply of gas to the burner. The gas valve alluded to constitutes the vertical stem 43 which has mounted on the upper terminal thereof the handle 44. The vertical stem 43 is tapered toward its lower terminal and seats in the enlarged portion 45 configurated on the valve pipe 42 intermediate its terminals. 112 is an air chamber over the burner chamber, as shown.

Air enters into the burner chamber 9 and also the lower extremity of the burner. This creates a draught for the passage of the combustible elements through the opening 7 formed in the base of the oven. Simultaneously the air in the chamber 112 disposed over the burner chamber 9 passes out of the opening 7 in the oven base, forming confluence with the combustible elements. The combustible elements passing through the said opening 7 impinge against the baffle plate 98 supported by the diametrically opposed tray racks, one of which is designated by the numeral 99. Disposed above the tray racks 99 are the diametrically opposed tray racks 100 similar in construction to the tray racks 99. The said tray racks are substantially mounted on the sides of the oven and have configurated in staggered formation on the inner faces thereof, a plurality of lugs. The numerals 102 designate trays of conventional construction which are held in position by the tray racks 99 and 100. It will be readily discerned that the height of these tray racks may be readily adjusted by engaging the same in different series of lugs 101 formed on the tray racks 100. It is purported that the baffle plate 98, may be supported on the lower side of a tray rack, although I have shown the same as a separate member.

The numeral 103 designates a casing adapted for enclosing the lower portion of the burner chamber 9. The said casing is held in position by a plurality of pivoted buttons, one of which is designated by the numeral 104. Through this medium, access to the burner chamber is facilitated, as it will be readily understood that upon turning the buttons 104, the casing 103 may be removed.

The numeral 105 indicates an opening formed in the rear wall of the oven, thus providing a passage from the oven to the flue 18. This passage is controlled by the hingedly mounted damper 106 having attached thereto, the lever arm 107. The numeral 108 designates a connection rod pivotally connected to the lower extremity of the lever arm 107 and which passes through the base of the oven and extends downwardly as at 109, then at right angles thereto in horizontal alignment with the casing 103, as designated by the numeral 110. The numeral 111 designates a turn buckle or sleeve nut which is disposed intermediate the sections 109 and 110 of the connection rod. The inner extremity of the connection 110 is connected to the valve face plate. Upon turning of the vertical stem 43 of the gas valve, the gas and air valves are actuated as hereinbefore described. The actuation of the air valves operates the damper 106 synchronically, as it will be discerned that through the medium of the connection rod hereinbefore described, connection to the said members is had. Through the medium of the turn buckle 111, the damper 106 may be regulated independently of the gas and air valves.

While it is believed that from the foregoing description the nature and advantages of my invention will be readily apparent, I do not wish to be understood as limiting myself to the specific details of construction and arrangement as herein de-

scribed and illustrated, as it is manifest that variations and modifications may be resorted to in the features of construction and arrangement, in the adaptation of the device to various conditions of use, without departing from the spirit and scope of the invention. I therefore reserve the right to all such variations and modifications as properly fall within the scope of the invention as defined by the appended claims.

What I claim as new is:

1. A heat retaining oven constituting an insulated base having a burner chamber, an insulated top, insulated walls, an insulated door, a gas burner for heating the said oven and an air chamber over the burner chamber.

2. A heat retaining oven constituting an insulated base having a burner chamber, a dead air space in the said base, an insulated top, a dead air space in the said top, insulated walls, dead air spaces in the said walls, an insulated door, a dead air space in the said door, a gas burner for heating the said oven and an air chamber over the burner chamber.

3. A heat retaining oven constituting an insulated base having a burner chamber, an insulated top, insulated walls, an insulated door, a flue at the rear of the said oven, an opening affording communication from the said oven to the said flue, a closure means for the said opening, a gas burner for the said oven, an air chamber over the burner chamber and means for operating the said closure means synchronically with the said gas burner.

4. A heat retaining oven constituting an insulated base having a burner chamber, an insulated top, insulated walls, an insulated door, a gas burner disposed beneath the said base, an air chamber over the burner chamber, an opening in the said base for the entrance of combustible elements from the said gas burner and a baffle plate for diffusing the said combustive elements.

5. A heat retaining oven constituting an insulated base having a burner chamber, an insulated top, insulated walls, an insulated door, a gas burner disposed beneath the said base, an air chamber above said burner chamber, an opening in the said base for the entrance of combustible elements from the said gas burner and a baffle plate for diffusing the said combustive elements and an opening for the egression of the spent gas.

6. A heat retaining oven constituting an insulated base having a burner chamber, an insulated top, insulated walls, an insulated door, means for reinforcing the said base, a gas burner for the said oven and an air chamber over the burner chamber.

In testimony whereof, I affix my signature in the presence of two witnesses.

JOHN H. BEEBY.

Witnesses:
M. McMillan,
R. Slonemsky.