Feb. 20, 1945. J. F. HENNESSY 2,369,825

GAS RANGE

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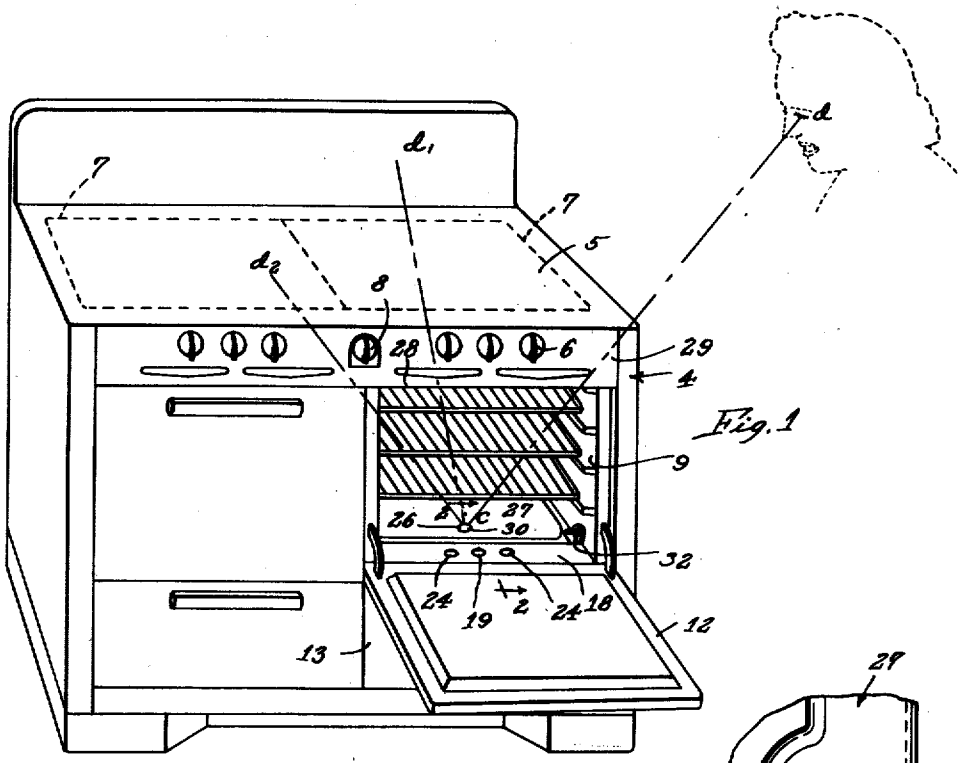


Fig. 1

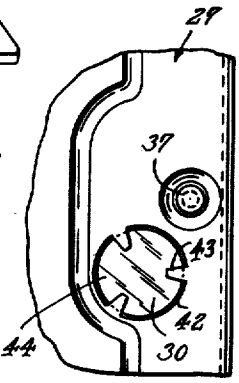


Fig. 3

Fig. 2

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GAS RANGE

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Application September 2, 1941, Serial No. 409,188

5 Claims. (Cl. 126—39)

This invention relates to an improved gas range.

Where the oven burner of a gas range does not have an automatic lighter, and that is true in a large majority of cases, the housewife is often worried that the burner has been extinguished, and the oven, and eventually the kitchen, will fill with gas, and she knows that a gas filled oven is an explosion hazard. In the gas ranges as heretofore constructed it has been most difficult and awkward for the housewife to check on whether or not the oven burner is burning. Usually there was only one or two holes in the oven bottom through which the flame of the oven burner could be seen, but then only by stooping down far enough into the hot oven to peer through the small hole. It is therefore the principal object of my invention to provide a window in the oven bottom located far enough rearwardly from the front end of the oven so that the oven burner flame may easily be seen through the window by the housewife standing substantially erect in front of the range, when the oven door is opened, the line of sight being at an angle of approximately 45° to a horizontal as against about 20° with the old arrangement, and the window being furthermore brought into much closer proximity to the flame with the new arrangement for better visibility.

In accordance with another object of my invention, the window is made of lens form so that the illumination of the window is a sufficient indication to the housewife that the gas is burning, without actually seeing the jets.

Still another object consists in the provision of the window lens with a nearly flat top over which utensils may be slid easily into and out of the oven, the lens having an annular flange provided thereon for support thereof between the top and bottom walls of the hollow oven bottom.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a perspective view of a gas range embodying my invention;

Fig. 2 is a vertical section in the plane of the line 2—2 of Figure 1, and

Fig. 3 is a detail view looking at the front portion of the oven bottom from beneath.

The same reference numerals are applied to corresponding parts throughout the views.

In Figure 1 the reference numeral 4 designates a domestic gas range, the entire top 5 of which is approximately at the same elevation as a table top. The knobs indicated at 6 are for the control of cooking top burners located in the areas indicated in dotted lines at 7 in the top 5. 8 is the dial for the usual oven heat regulator associated with the oven 9. A front portion of the oven burner 10 appears in vertical section in Fig. 2 in the upper portion of the broiling oven 11. While the oven burner may be of any suitable type, the one shown is like that disclosed in my Patent No. 2,253,178, issued August 19, 1941. 12 is the door for the baking oven and 13 is the door for the broiler drawer.

The oven burner 10 as indicated in Fig. 2 has a supporting arm 14 extending forwardly therefrom and resting on a ledge 15 provided on the lower end of a sheet metal hanger bracket 16 that is suitably secured at its upper end 17 to the underside of a sheet metal cross-piece 18 which is in the nature of a threshold for the baking oven 9, being at the front end thereof next to the door 12. A lighting hole 19 is provided at the middle of the cross-piece 18 in register with the upper open end of an L-shaped gas conduit 20. The latter is secured as indicated at 21 onto the bottom of the arm 14 on the burner with the mouth 22 thereof in close proximity to one or more of the ports 23 of the burner 10 in order to conduct gas from the oven burner 10 to the hole 19 where it can be ignited with a lighted match so as to light the burner by flashback through the conduit 20 in a well known manner. One or more other holes 24 is provided in the cross-piece 18 in laterally spaced relation to the lighter hole 19 partly for ventilation of the oven 9 and partly as peep holes for ascertaining whether the burner has been actually ignited and is still burning. The dotted line *ab* in Fig. 2 is the approximate line of sight, and it is evident from this that the housewife had to stoop pretty low in order to see the flame 25 through either of these holes. If the oven burner was turned on for any length of time, the heat of the oven naturally added to the disagreeableness in checking the burner that old way. With my invention the burner can be checked without stooping and without getting the face at all close to the hot oven.

In accordance with my invention, a window hole 26 is provided in the removable oven bottom 27 in rearwardly spaced relation to the holes 24 so that the housewife standing substantially erect in front of the range with the oven door 12 opened can look down into the oven past the lower edge 28 of the upper front panel 29 and see the flame 25 through the hole 26. The steep-

ness of the line of sight is indicated by the dot and dash line *cd* in Fig. 2 in contrast to the flat angle of the line of sight *ab*. The lens 30 in the hole 26 concentrates the light rays like a bull's-eye on a lantern, and the housewife therefore has no difficulty whatsoever in checking the burner, because if the gas is burning, the lens 30 will be illuminated and the light will show up very clearly in the relatively dark oven space. As a result, the housewife need not stand directly in front of the oven as indicated by the line of sight *cd*, but may stand off to one side as indicated by the line of sight cd_1 or the line of sight cd_2 in Figure 1, it being only necessary to get a glimpse of the lens 30. This feature eliminates any uncertainty, and the housewife does not have to worry about the possibility of the oven filling with unburned gas. While this feature is particularly desirable in ranges where the burner is lighted by hand in the manner described above, it is also highly desirable even in ranges equipped with automatic oven lighters, because the housewife in any even likes to know before she closes the oven door that the burner is functioning properly. The lens 30 is molded to the plano-convex form shown using good clear glass similar to that used in plate glass.

The oven bottom 27 as indicated in Fig. 2 rests on a ledge 31 provided on the front of the crosspiece 18, and as indicated in Figure 1, the oven bottom is releasably secured in place by rotary fasteners 32 provided on the inner side walls of the oven. The housewife therefore has easy access to the lens 30 for cleaning. The oven bottom 27 is made up of an upper sheet metal panel 33 and a lower sheet metal panel 34, the flanged edges 35 and 36 of which have a telescoping fit. These panels are suitably secured together as by means of rivets 37. The body of the lens 30 is of frusto-conical form with the top surface 38 convex, as shown, and utensils may be slid over it easily. The taper on all sides of the lens also reduces the likelihood of a utensil catching thereon and failing to ride over the lens. The top surface 38 is furthermore slightly below the plane of the upstanding rim portion 39 of the upper panel 33 to protect the lens against too much contact with the bottoms of utensils as they are slid into and out of the oven over the rim 39 closely adjacent the lens. The metal around the hole 26 is swedged upwardly as indicated at 40 for a fairly tight fit on the tapered sides of the lens 30 so that grease and food particles will not be apt to collect around the lens. An annular flange 41 on the lens prevents upward displacement thereof through the hole 26. A circular hole 42 is provided in the lower panel 34 of the oven bottom, and lugs 43 project radially inwardly at circumferentially spaced points around this hole to engage the flat bottom surface 44 of the lens 30 and retain it against downward displacement. However, should it be necessary at any time to remove the lens and replace it, due, for example, to breakage, these lugs 43 could be bent enough to permit removal and replacement of the lens.

It is believed the foregoing description conveys a good understanding of the objects and advantages of my invention. The appended claims have been drawn to cover all legitimate modifications and adaptations.

I claim:

1. In a gas range, the combination of a baking oven having a substantially horizontal bottom, a gas burner in a compartment under the oven bottom, said burner being spaced below but in close heat transfer relation to the oven bottom, the oven having a door closing the open front end thereof, said oven bottom having a window provided therein in forwardly spaced relation to the burner, and a light concentrating frusto-conical lens supported substantially horizontally in said window hole with the smaller side up whereby said lens is illuminated by the flame of the burner, the illumination being easily visible through the open front end of the oven without necessarily viewing the burner on the aforesaid line of sight.

2. In combination, a hollow walled oven bottom for a gas range, comprising spaced, substantially parallel, upper and lower sheet metal walls, said walls having registering window holes provided therein, a plano-convex lens disposed in said window holes with the flat face thereof on the bottom and the convex face on top, said lens having a marginal portion disposed between the walls to prevent displacement of the lens from the holes, the flat bottom face being adapted to be placed in illuminating proximity to the flame of an oven burner, and means for securing the walls in fixed spaced relation holding the lens therebetween.

3. In combination, a hollow walled oven bottom for a gas range comprising spaced substantially parallel upper and lower sheet metal panels, said panels having registering holes provided therein, a closure of transparent heat resistant material for said holes, the closure having a marginal portion disposed between the panels to prevent displacement of the closure from the holes, and means for securing the panels together, the closure comprising a glass plug of generally circular form with a marginally projecting rim portion engaged between the panels, the circular body portion of said plug projecting upwardly through the hole in the upper panel, the hole in the lower panel being of approximately the same shape and dimensions as the rim portion of the plug and registering therewith, said lower panel having one or more projections thereon extending substantially radially inwardly from the hole under the rim portion of said plug to hold the same against downward displacement through said hole while permitting substantially unobstructed passage of light through the plug.

4. In combination, a hollow walled oven bottom for a gas range comprising spaced substantially parallel upper and lower sheet metal panels, said panels having registering holes provided therein, a closure of transparent heat resistant material for said holes, the closure having a marginal portion disposed between the panels to prevent displacement of the closure from the holes, and means for securing the panels together, the closure comprising a glass plug of generally circular form with a marginally projecting rim portion engaged between the panels, the circular body portion of said plug being of frusto-conical form and projecting upwardly through the hole in the upper panel and having a wedging fit therein.

5. In combination, a hollow walled oven bottom for a gas range comprising spaced substantially parallel upper and lower sheet metal panels, said panels having registering holes provided therein, a closure of transparent heat resistant material for said holes, the closure having a marginal portion disposed between the panels to prevent displacement of the closure from the holes,

and means for securing the panels together, the closure comprising a glass plug of generally circular form with a marginally projecting rim portion engaged between the panels, the circular body portion of said plug being of frusto-conical form and projecting upwardly through the hole in the upper panel and having a wedging fit therein, the sheet metal of the upper panel around the hole being bent upwardly to provide an inclined annular flange for wedging engagement with the periphery of the frusto-conical body portion of said plug.

JOHN F. HENNESSY.

CERTIFICATE OF CORRECTION.

Patent No. 2,369,825. February 20, 1945.

JOHN F. HENNESSY.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, second column, line 5, claim 1, after the syllable "dow" insert --hole--; lines 11 to 13, same claim, strike out the words "without necessarily viewing the burner on the aforesaid line of sight" and insert instead --, said lens being disposed so as to permit utensils to be slid over the same readily when they are placed on the oven bottom--; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 22nd day of May, A. D. 1945.

Leslie Frazer

(Seal) Acting Commissioner of Patents.

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