

H. M. REEVES

RANGE OVEN VENT

Fig. 1

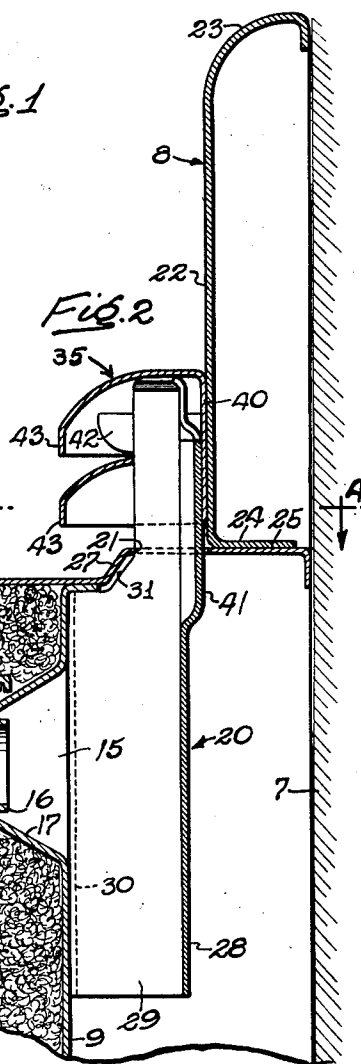


Fig. 2

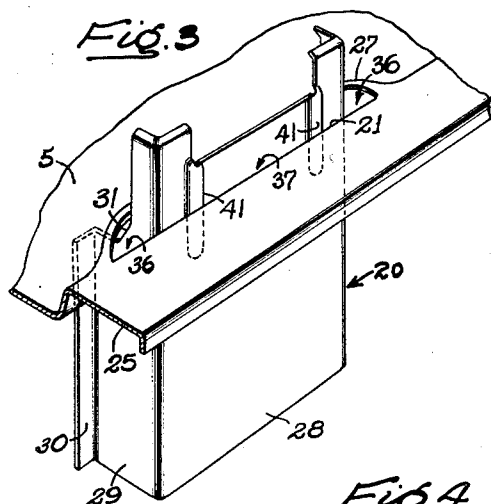


Fig. 3

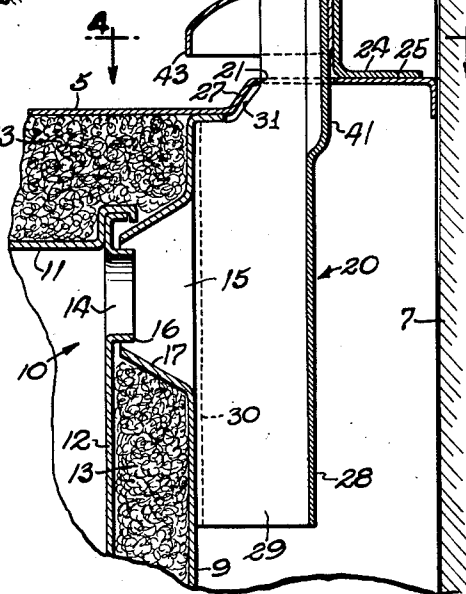
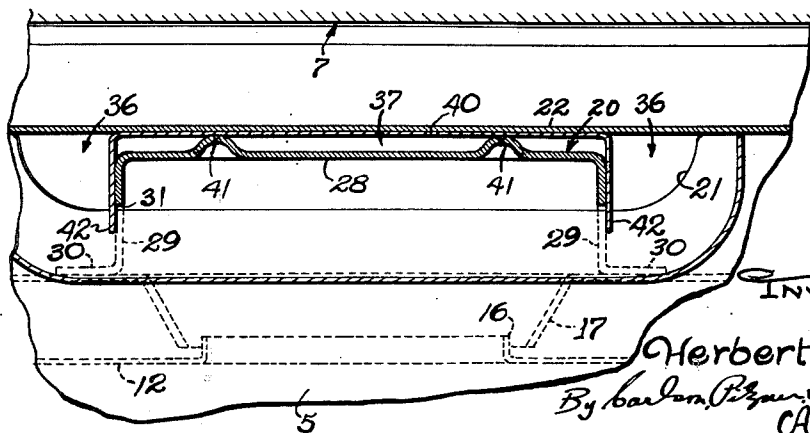


Fig. 4



INVENTOR

Herbert M. Reeves

By Baron P. Bauer, Nathan Wolfe
ATTORNEYS

UNITED STATES PATENT OFFICE

2,480,044

RANGE OVEN VENT

Herbert M. Reeves, Kankakee, Ill., assignor to
Florence Stove Company, Gardner, Mass., a
corporation of Massachusetts

Application April 23, 1945, Serial No. 589,876

4 Claims. (Cl. 126—21)

1

The invention relates to improvements in gas ranges and more particularly to gas ranges of the table type adapted to be installed flush with a wall or other vertical surface.

One object of the invention is to provide simple and practical means for venting the ovens of stoves of the above general character which is easy to keep clean and which is adapted to discharge the hot oven gases in a manner such as to avoid objectionable discoloration of the walls or other surfaces in the vicinity of the range.

Another object is to provide improved means for venting both the oven and the space between the range and the wall against which it is installed.

Other objects and advantages of the invention will become apparent from the following detailed description of the preferred embodiment illustrated in the accompanying drawing in which:

Figure 1 is a fragmentary perspective view of a gas range embodying the features of the invention.

Fig. 2 is a sectional view of the range taken in a vertical plane substantially on the center line of the vent opening for the oven.

Fig. 3 is a fragmentary perspective view of the stove top with the backguard removed to show details of the flue structure.

Fig. 4 is a sectional view taken in a horizontal plane substantially on the line 4—4 of Fig. 2.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawings and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

For purposes of illustration, the invention has been shown as embodied in a gas range of the table type having a top 5 and sides 6 terminating in a common vertical plane to adapt the stove for installation flush with a vertical surface such as a wall 7. An upright splasher plate or backguard 8 is mounted at the rear of the top 5 and arranged to lie flush against the wall 7. As shown in Fig. 2, the back of the range is closed by a back member or panel 9 spaced inwardly from the rear edges of the top 5 and sides 6 so as to provide an air space of substantial depth between the range back and the wall 7 to prevent excessive heating of the latter.

The exemplary range is provided with an oven

2

10 having a top wall 11 spaced from the range top 5 and a rear wall 12 spaced forwardly from the back member 9 and the intervening space is filled with insulating material 13 of any suitable character. To permit the escape of hot gases from the oven 10, alined vent openings 14 and 15 are provided respectively in the back wall 12 and back member 9 of the range. As herein shown, the opening 14 is encircled by an annular flange 16 adapted to telescope into the smaller end of a generally conical flange 17 encircling the opening 15. The flanges serve to minimize leakage of gas into the space occupied by the insulating material 13.

In accordance with the invention, an improved flue box 20 is arranged with respect to the other elements of the range in a novel and advantageous manner to provide for the venting of the hot gases from the oven and also the space at the rear of the stove so that the gases are effectually prevented from coming into contact with adjacent wall surfaces. For this purpose the backguard 8 is constructed in the form of a relatively shallow panel and is mounted at the extreme rear edge of the top 5 with its front face spaced substantially from the back member 9 so as to leave a gap of sufficient width to allow the flue box 20 to project through an opening 21 in the top located forwardly of the backguard.

In the exemplary stove, the backguard 8 comprises a flat sheet metal plate 22 having a rearwardly turned rounded flange 23 extending around its side and top edges and a flat flange 24 along its bottom edge. The flange 24 rests on and is secured in any suitable manner to a raised ledge 25 formed along the rear edge of the top 5. The front wall of the ledge 25 is preferably flitted so as to provide a rounded corner that is easily cleaned. Provision of the ledge 25 for supporting the backguard 8 raises the joint between the parts above the plane of the top and eliminates sharp corners in which dirt might collect. An upturned flange 27 around the opening 21 is formed to merge with the ledge 25 and is similarly flitted to provide for convenient cleaning.

The flue box 20, as herein shown, is in the form of a sheet metal channel comprising a web 28 of slightly greater width than the vent opening 15 and having flanges 29 at opposite sides. The flue box is adapted to be mounted at the back of the stove in registration with the opening 15 as shown in Fig. 4 and the flanges 29 are turned outwardly as at 30 for convenient attachment to the back member 9 as by spot welding. When thus mounted, the flue box in combination with

3

the back member 9 defines a vertical passage of generally rectangular cross section leading upwardly from the vent opening 15 and through the opening 21 in the range top 5. The projecting end of the flue box is open at the front to provide for the discharge of gases therefrom. Referring to Fig. 2 of the drawings, it will be observed that the flue box is also open at its lower end for the admission of cooler air which is thus effective to dilute the hot oven gases before they are discharged from the flue box.

To avoid unnecessary enlargement of the opening 21 in the range top 5, the side flanges 23 of the flue box are cut back as indicated at 34. The narrowed portions of the flanges thus formed are arranged to project a substantial distance above the top 5 and serve to support and position a cap or hood 35 arranged to direct the vented gases outwardly and downwardly over the range top.

Provision is also made for venting the space between the range back 9 and the wall 7 to prevent excessive heating of the latter. To this end, the opening 21 in the range top is made slightly longer and wider than the projecting portion of the flue box so as to provide outlets 36 (Figs. 3 and 4) at opposite sides of the box and an outlet 37 at the rear of the box. Circulation of air may thus be maintained between the range back 9 and the wall 7, as the heated air is free to pass upwardly through outlets 36 and 37 as well as through the open end of the flue box.

The hood 35 is constructed and arranged so that the air rising through the openings 36 and 37 as well as the gases rising through the flue box 20 are deflected outwardly and downwardly over the range top 5. Moreover, the hood is mounted with a particular view to facilitating its removal for cleaning. To this end, the hood is constructed in the form of an elongated box-like structure of sheet metal or other suitable material open at its lower end and dimensioned to extend over the outlets 36 and 37 at the sides and back of the flue box. Preferably the hood is formed with a flat rear wall 40 adapted to be held snugly against the face of the backguard 8 by horizontally spaced vertical ribs 41 stamped in the web 28 of the flue box. Forwardly projecting tabs 42 struck from the wall 40 are adapted to engage the sides of the flue box 20 to position the hood laterally with respect to the opening 21.

In the particular hood shown, the front wall is formed to provide a pair of louvers 43 shaped to deflect the air and hot gases downwardly and outwardly over the top of the range. Dirt or soot carried by the gases in thus deposited on the range top 5 from which it can be wiped up with a minimum of effort. Soiling or discoloring of the adjacent wall surfaces is thus effectually avoided.

It will be apparent from the foregoing that the invention provides novel means for venting the oven and the space at the rear of a range of the type adapted to be mounted flush against a wall. Hot gases from the oven suitably diluted with cooler air from the space at the back of the range are discharged over the top of the stove and forwardly of the backguard so as to prevent soot or dirt carried thereby from being deposited on the adjacent wall surfaces. The discharged gases are deflected by a hood structure which is readily removable for cleaning purposes. In general, the venting means is simple in construction yet efficient and reliable in operation.

I claim as my invention:

4

1. In a gas range having a horizontally disposed working top extended rearwardly of the back wall of the range, an upright back guard extending along the rear edge of the working top and having its front face spaced rearwardly from said back wall, said working top having an opening located between the back wall and the front face of said back guard, an oven disposed below the working top and having a vent in said back wall, an elongated flue box secured to said back wall and in communication with said oven through said vent, said flue box having its upper end projecting through the opening in said working top in spaced relation to the front face of said back guard, a removable cap member mounted on the projecting end of the flue box, said cap member having a rear wall portion adapted to be inserted between the projecting end of said flue box and the front face of said back guard to frictionally hold the member in place upon the flue box, and a forwardly and downwardly projecting skirt portion integral with said rear wall portion shaped to direct the discharged gases forwardly and downwardly over the top of the range.

2. In a gas range having a horizontally disposed working top extended rearwardly of the back wall of the range, an upright back guard extending along the rear edge of the working top and having its front face spaced rearwardly from said back wall, said working top having an opening located between the back wall and the front face of said back guard, an oven disposed below the working top and having a vent in said back wall, an elongated flue box secured to said back wall and in communication with said oven through said vent, said flue box having its upper end projecting through the opening in said working top to conduct the gases discharged through said vent above the top of the range, laterally spaced rearwardly projecting ribs formed on the projecting portion of said flue box, and a cap member cooperating with the projecting end of said flue box to direct the discharged gases forwardly and downwardly over the range top, said cap member having a flat rear wall portion adapted to be inserted between said ribs and the front face of the back guard to frictionally hold the cap in place upon the flue box, said ribs cooperating with said rear wall portion of the cap member to define a ventilating passage at the rear of the flue box.

3. In a gas range having a horizontally disposed working top extended rearwardly of the back wall of the range to abut the wall of a room in which the range is installed, an upright back guard extending along the rear edge of the working top and having its front face spaced rearwardly from said back wall, said working top having an opening located between the back wall and the front face of said back guard, an oven disposed below the working top and having a vent in said back wall, an elongated flue box secured to said back wall in registration with said vent and having its upper end extended through the opening in said working top to conduct the gases discharged through the vent above the top of the range, laterally spaced rearwardly projecting ribs formed in the extended portion of said flue box for defining a ventilating passage at the rear of the flue box, a cap member cooperating with the projecting end of the flue box to direct the discharged gases forwardly and downwardly over the range top, said cap member having a flat rear wall portion adapted to be inserted be-

5

tween said ribs and the front face of the back guard to frictionally hold the cap in place upon the flue box, and forwardly projecting tabs struck from the rear wall of said cap engageable with the sides of the flue box to position the cap member laterally with respect to the flue box opening in said working top.

4. In a gas range having a horizontally disposed working top extended rearwardly of the back wall of the range to abut the wall of a room in which the range is installed, an upright back guard extending along the rear edge of the working top and having its front face spaced rearwardly from said back wall, said working top having an opening located between the back wall and the front face of said back guard, an oven disposed below the working top and having a vent in said back wall, an elongated flue box secured to said back wall in registration with said vent and having its upper end extended through the opening in said working top to conduct the gases discharged through the vent above the top of the range, a cap mounted on the projecting end of said flue box, said cap having a forwardly

6

and downwardly projecting skirt portion shaped to direct the discharged gases forwardly and downwardly over the range top, and an upstanding flange formed on said working top around said flue box opening, said flange preventing spillage from draining into the flue box and being operative in cooperation with the skirt portion of said cap to conceal the opening from view.

HERBERT M. REEVES.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

1,706,389	Bayliss	Mar. 26, 1929
1,709,389	Bayliss	Mar. 26, 1929
2,005,121	Wilder	June 18, 1935
2,044,761	Becvar	June 23, 1936
2,158,881	McCormick	May 16, 1939
2,274,299	Mayer	Feb. 24, 1942
2,290,360	Rose	July 21, 1942
2,336,988	Hennessy	Dec. 14, 1943
2,376,571	Brumbaugh	May 22, 1945