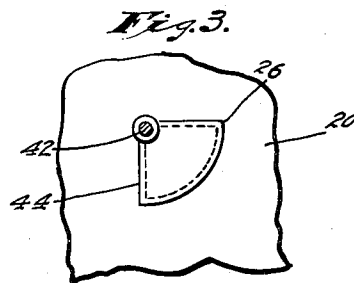
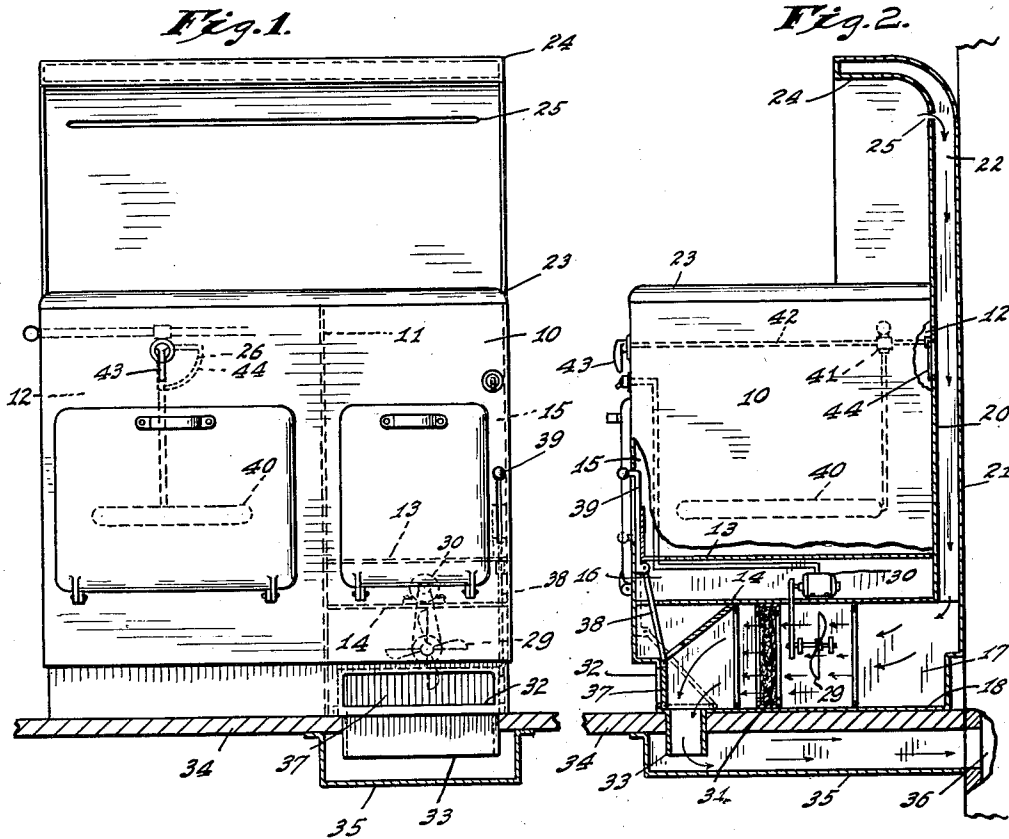


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GAS OVEN VENTILATION
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GAS OVEN VENTILATION

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My invention relates to gas ranges and more particularly to means for removing the products of combustion and cooking odors freed in the operation of the range.

It is the object of my invention to produce a gas range embodying means by which cooking odors and the products of combustion can be removed without the necessity for any unsightly flues or openings in the wall of the room in which the range is located. A further object of my invention is to make it possible to use the heat contained in gases withdrawn from the range for the purpose of heating the room in which the range is located. Still another object of my invention is to withdraw gases from an enclosed gas-range oven in a manner which will not interfere with proper combustion in the oven burner.

In carrying out my invention I provide the gas range with a vertically extending duct located at the back of the range and extending upwardly above the cooking top, and preferably forwardly to form a hood. Such duct is provided with inlet openings above the cooking top and also with an opening communicating with the oven. Near its bottom, the gas range is provided with a compartment with the rear end of which the lower end of the aforesaid duct communicates. Within the compartment I locate a fan or other air-moving means adapted to draw air downwardly through the duct and also through a filter located in the compartment. Near its front end, the compartment is provided with two outlet openings, one of which discharges through the front wall of the range and the other of which discharges downwardly through a thimble from which gases may pass into a duct located in the floor and communicating with an outlet flue or chimney. A valve associated with the two openings just referred to permits the filtered gases withdrawn from the range to be discharged alternatively either into the room in which the range is located or into the exhaust flue.

The accompanying drawing illustrates my invention. Fig. 1 is a front elevation of a gas range; Fig. 2 is a side elevation of the range with portions thereof broken away to illustrate the internal construction; and Fig. 3 is a fragmental elevation illustrating a portion of the rear wall of the gas-range oven.

The range illustrated in the drawing comprises an enclosing casing 10 divided interiorly by a vertical partition 11 into chambers one of which constitutes an oven 12. The other chamber is subdivided by spaced horizontal partitions 13 and 14 into a storage compartment 15 for pans, ket-

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ties, and other utensils, a motor compartment 16, and an air-treating compartment 17. The latter compartment is located at the base of the range and its bottom is closed by a bottom wall 18.

At the rear of the range two spaced walls 20 and 21 define an air duct 22 which extends upwardly beyond the cooking top 23 and curves forwardly to form a hood 24. Near its top, the front wall 20 of the duct 22 is provided with an elongated, horizontally extending inlet opening 25 adapted to receive gases arising from the cooking top and trapped by the hood 24. In the specific construction illustrated, the front duct-wall 20 forms the rear wall of the oven 12 and is provided with an opening 26 providing communications between the oven and duct.

At its lower end, the duct 22 communicates with the rear end of the compartment 17 within which is located a fan 29 operatively connected to an electric motor 30 located in the compartment 16. Extending across the compartment 17 is a filter 31 or other cleaning means adapted to intercept and retain non-gaseous particles. At its front end, the chamber 17 is provided with two discharge openings. One of such openings, designated by the reference numeral 32 is located in the front wall of the casing 10 while the other, located in the bottom wall 18, communicates with a thimble 33 extending through the floor 34 upon which the range rests. Beneath the floor 34, there is provided a conduit 35 leading to an exhaust flue or chimney 36 and into which the thimble 33 discharges.

Pivotaly mounted between the discharge openings of the compartment 17 is a flap valve 37 swingable between the full-line and dotted-line positions illustrated in Fig. 2 so as to close either discharge opening and open the other. Suitable operating means for the valve 37 may include a link 38 connecting it to a vertically slidable operating member 39 accessible for manual adjustment at the front of the range.

Within the oven 10 there is disposed a gas burner 40 the supply of gas to which is controlled by a valve 41. The valve 41 is controlled through a shaft 42 which extends through the front wall of the range and is there provided with an operating handle 43 by means of which the shaft can be rotated to control the quantity of gas supplied to the burner 40. The shaft 42 continues rearwardly beyond the valve 41 into association with the duct wall 20, where it is provided with a shutter 44 adapted in the rotation of the shaft 42 to open and close the opening 26 through which the oven 12 communicates with the duct

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22. The arrangement is such that rotation of the shaft 42 in one direction will open both the valve 41 and the shutter 44, while rotation of the shaft 42 in the opposite direction will close both the shutter and the valve. Thus, whenever the burner 40 is in use, the products of combustion can escape from the oven into the duct 22 through the opening 26, and the effective size of the opening 26 will vary with the rate at which gas is being consumed at the burner 40. When the gas is turned off, the opening 26 will be completely covered by the shutter 44, as shown in Fig. 3, thus preventing the passage of air through the oven and the consequent loss of heat.

In the operation of the range, the motor 30 and fan 29 may or may not be operated, as desired. If the motor is not operating and the burner 40 is, some upward, gravity-induced flow of air in the duct 22 may occur, such air being discharged through the opening 25 beneath the hood 24, with the products of combustion issuing from the oven, thus protecting the wall against which the stove may be located. If, however, the motor 30 and fan 29 are operating, air will be drawn from above the cooking top and the opening 25, whence it will pass downwardly through the duct, into the compartment 17, and through the filter 31 to be discharged through either of the discharge openings of the compartment. If the oven burner 40 is in operation, the products of combustion escaping from the oven through the opening 26 will follow the same path. If it is desired to utilize the heat contained in the gases withdrawn from the oven and from above the cooking top, the valve 37 will be moved to the dotted-line position shown so that the heated air will be discharged through the opening 32 into the room. On the other hand, if it is not desired to have gases from the compartment 17 escape into the room, the valve will be moved to the full-line position of Fig. 2, and the gases will escape through the thimble 13 and duct 35 into the discharge flue 36.

I claim as my invention:

1. In a gas range having a cooking top and an oven, a duct located in rear of the range and having spaced front and rear walls, said duct extending upwardly above the cooking top, the front wall of said duct being provided with inlet openings communicating respectively with the space above said cooking top and with said oven, said range being provided below the level of said oven with a compartment communicating at its rear end with said duct and located entirely in front of said rear duct-wall, means disposed in said compartment for withdrawing air from the lower end of said duct, said compartment being provided with first and second discharge openings for such air, and means for selectively closing said openings, said range including a front wall in

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which the first discharge opening is located, and said last-named means including an operating member extending through said front wall.

2. In a gas range having front, back, and end walls extending downwardly to a range-supporting surface, said range also having a cooking top and an oven, a duct located at the rear of the range and having spaced front and rear walls, said duct extending upwardly above the cooking top, the front wall of said duct being provided with inlet openings communicating respectively with the space above said cooking top and with said oven, said range being provided in its lower portion and within the confines of said front, back, and end range-walls with a compartment communicating at its rear end with said duct, means disposed in said compartment for withdrawing air from the lower end of said duct, said compartment having a floor provided adjacent its front end with an air-outlet opening, said front range-wall being provided with a second air-outlet opening, valve means for alternatively closing either of said outlet openings, and a filter located in said compartment for filtering the air passing there-through.

3. In a gas range having a cooking top and an oven, a duct located in rear of the range and having spaced front and rear walls, said duct extending upwardly above the cooking top, the front wall of said duct being provided with inlet openings communicating respectively with the space above said cooking top and with said oven, said range being provided below the level of said oven with a compartment communicating at its rear end with said duct and located entirely in front of said rear duct-wall, means disposed in said compartment for withdrawing air from the lower end of said duct, said compartment being provided with a discharge opening for such air, said range having a front wall provided near its lower extremity with a rearwardly offset portion, said discharge opening being located in said offset portion.

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