

July 21, 1942.

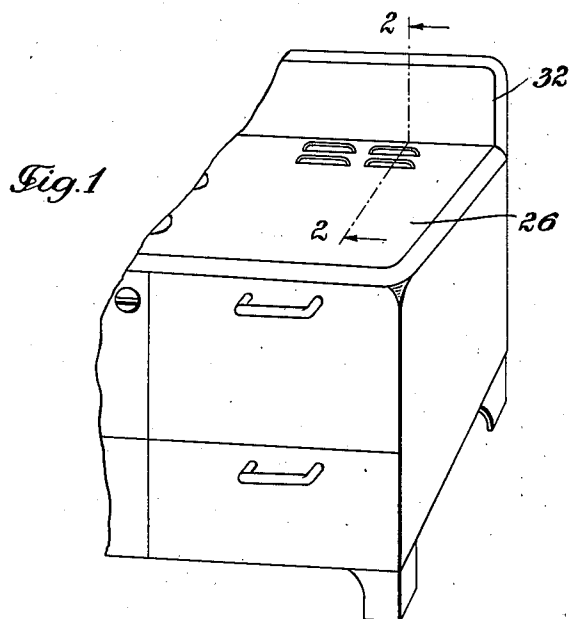
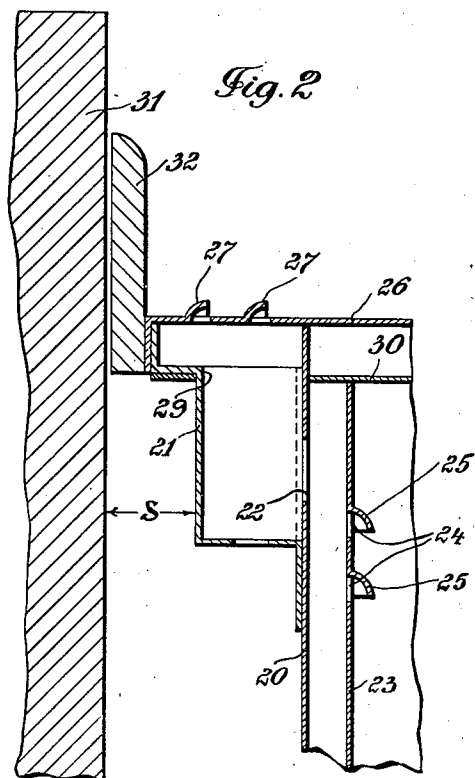
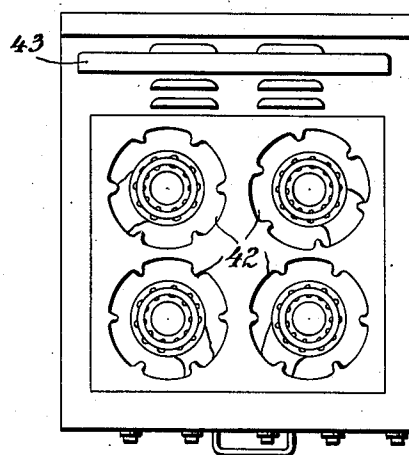
A. ROSE

2,290,360

GAS RANGE

Filed Dec. 17, 1940

2 Sheets-Sheet 1



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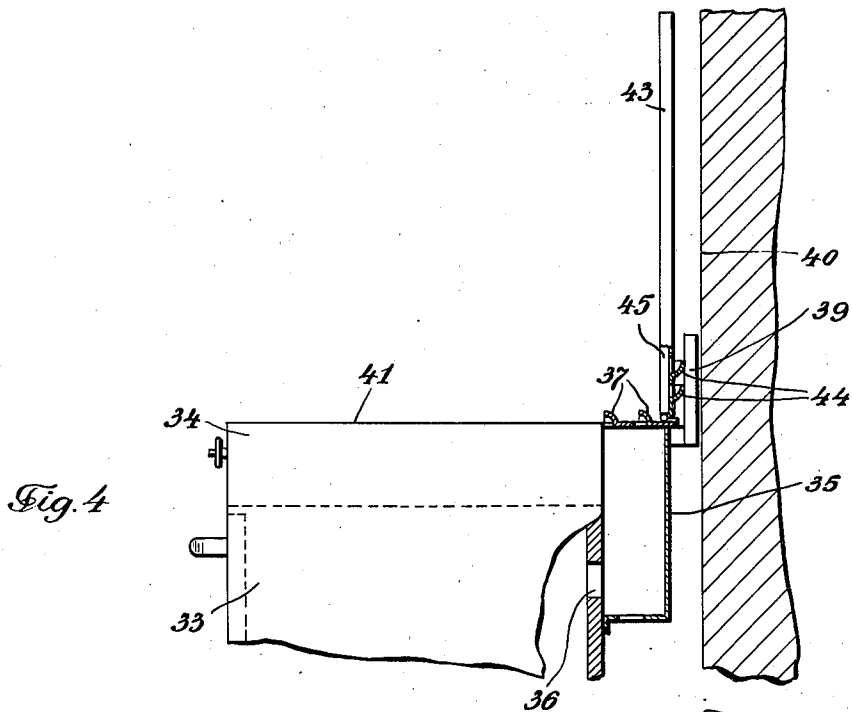
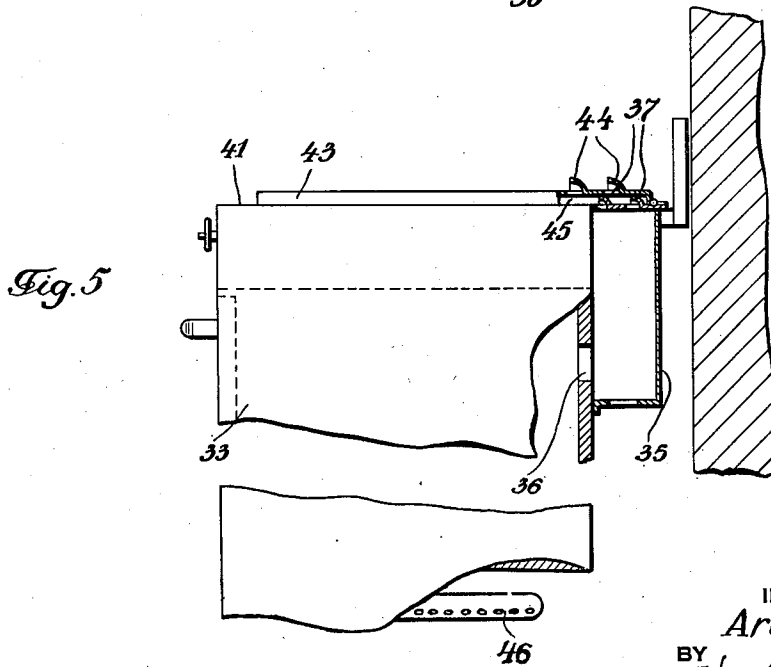
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2,290,360

GAS RANGE

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,290,360

GAS RANGE

Arthur Rose, New York, N. Y.

Application December 17, 1940, Serial No. 370,435

4 Claims. (Cl. 126—39)

This invention relates to improvements in gas stoves and ranges and has for a principal object the provision of a gas stove or range in which the vapors from the oven and/or broiler are directed toward the front of the stove or range and away from the wall, adjacent to which the back of the stove or range is usually positioned.

Another object of the invention is the inclusion in a gas stove or range of a flue box to receive the vapors from the oven and/or broiler, and the incorporation therein of frontwardly directed louvres, vents or the like in the flat or horizontal top of the stove, said vents being in communication with said flue box, whereby the heat and combustion products passing therethrough are directed away from the wall back of said stove or range.

A further object of the invention is the inclusion in gas stoves where the oven and/or broiler are positioned beneath the usual burners, of a flue box to receive the heat and combustion products from said oven and/or broiler, the forming of frontwardly directed louvres or vents in the flat top of the stove in communication with said flue box, and the mounting of a hinged or otherwise swingable cover for said burners having a passage therethrough also terminating in frontwardly directed louvres or vents so that when the oven and/or broiler is being used the vents in said flat top direct the products of combustion frontwardly when said cover is open and the vents in said cover perform the same function when the cover is closed.

Other objects and advantages of the invention will be apparent to those skilled in the art.

Referring to the drawings:

Figure 1 is a perspective view, partly broken away, of a gas range illustrating one embodiment of the invention;

Figure 2 is a fragmentary sectional elevation taken on the line 2—2 of Figure 1;

Figure 3 is a plan view of a gas range of the "low oven" type including a further embodiment of the invention;

Figure 4 is an elevation, partly in section, showing details of the flue box and the louver vents through which the heat and the products of combustion are directed frontwardly of the range when the burner cover is open; and

Figure 5 is an elevation, similar to Figure 4, showing how the heat and products of combustion are directed frontwardly when the burner cover is closed.

In gas stoves or ranges of the prior art it was customary to mount the flue box behind

the oven and/or broiler and products of combustion moving upwardly therefrom invariably discolored the wall back of the range.

This resulted in a trend of permitting the products of combustion to rise straight up through the backguard piece or to otherwise slightly space the vertical stream of combustion products away from the wall.

According to the present invention, I provide a flue box on the rear wall of the oven and/or broiler. This flue box is positioned underneath the main top of the range and is spaced forwardly from the back line of the range. This places the flue box far enough away from the wall to prevent the wall from becoming damaged due to heat of convection. The fumes or vapors, which are comprised of products of combustion pass through this flue box, out the top thereof, which is just beneath the main top of the range and thence out through the louvres or vents formed in the main top of the range. Each of these vents, which is longitudinal and preferably parallel to the back of the range, directs the fumes toward the front of the range and therefore well out from the rear wall against which the range is positioned.

By directing the fumes frontwardly in this manner there is caused to form an inverted pyramid the cross-section of which increases upwardly in a ratio proportionate to the size of the vents.

I have found that the cross section at the head height of a tall person using the range is well over the surface of the range and therefore even a tall person does not get the fumes in the face.

I have also found that by treating the fumes in this way when the cross-section of the pyramidal form meets the wall the fumes have traveled so great a distance that they have cooled down substantially and have virtually no effect on the wall.

In ranges of the "low oven" type I provide one set of louvres or vents in the cooking top of the range, said vents being in communication with the flue box, and I additionally provide a second set of louvres or vents in the hinged cover adapted to overlie the other vents when the cover is closed, so that regardless of whether the hinged cover is open or closed, the vapors are directed frontwardly of the range.

Referring first to Figure 2, the rear wall 20 of the range has secured thereto a flue box 21, the open side of which is in communication with an opening or hole 22 formed in the rear wall 20. The range may have a second wall 23 spaced

apart from the wall 20 and this wall 23 may be the rear wall of the oven and/or broiler.

In order to permit the vapors to escape from the oven and/or broiler some form of opening should be provided.

In the arrangement shown in Figure 2 I have provided a plurality of openings 24 each of which has associated therewith a louvre 25. Altho' I show the louvre projecting into the oven and/or broiler they can operatively extend into the space between the walls 20 and 23. The openings 24 are positioned at a lower level than that of the opening 22 so that the vapors will rise in passing from the openings 24 to the opening 22.

The main top 26 of the range has formed in its upper surface louvres or vents 27 each of which has its exit directed toward the front of the range. The upper end of the flue box is open and may register with a corresponding hole 29 formed in the sub-top wall 30 so that vapors may pass directly out of the flue box 21 through the vents 27 and in so passing, it is directed frontwardly of the range (toward the right as viewed in Figure 2) which is directly away from the kitchen wall 31 against which, or adjacent to which the range is positioned.

The range may have secured thereto a back guard 32 which not only protects the wall adjacent to the main top surface of the range but also defines the distance S between the flue box 21 and the wall 31.

In Figure 1 it will be noted that the louvres or vents 27 are formed in the main top 26 adjacent to the back guard 32 on the oven and/or broiler side of the range.

In the modification shown in Figures 3 to 5 a gas range of the "low oven" type has the oven and/or broiler 33 positioned beneath the cooking top burner compartment 34. The flue box 35 is secured to the rear wall of the range and is in communication with an opening 36 from the oven and/or broiler, which is heated by a burner 46.

The upper end of the flue box 35 is open and is in communication with louvres or vents 37 which direct the products of combustion toward the front of the range.

A back-guard 39 mounted on the range is positioned adjacent to the wall 40 of the kitchen, galley, compartment, or room, in which the range is installed and insures that the rear wall of the flue box 35 is not less than a predetermined distance from the wall 40.

The cooking top 41, which carries a plurality of burners 42, is provided with a cover 43. This cover may be hinged or otherwise movably secured to the range so that it can be closed down to cover the burners when the cooking top is not in use and opened up to a vertical position when it is desired to use the burners.

The hinged cover 43 has a plurality of louvres or vents 44 formed in the upper surface thereof, and a passage 45 formed in the cover communicates with the louvres or vents 44. The louvre vents 44 when the hinged cover is closed, are adapted to cause the products of combustion to be directed toward the front of the range.

The passage 45 is of such dimensions that when the cover is closed it clears the louvres 37 formed in the main top 41.

When the cover 43 is open, as shown in Figure 4, and the oven and/or broiler is being used, the

products of combustion are directed frontwardly of the range by the vents 37.

When the cover 43 is closed down to the position shown in Figure 5, the products of combustion pass through the vents 37 toward the front of the range but within the passage 45 and thence out through the vents 44 in the cover 43, which further direct the products of combustion toward the front of the range.

Although a simple embodiment of the invention is shown together with a modification of the same, it is obvious that many changes may be made in the arrangements herein shown and described without departing from the spirit of the invention as defined in the following claims.

What is claimed is:

1. In a gas stove or range, a flat cooking top including burners, a broiler positioned beneath said burners, a heating burner therefor, a flue box below and spaced forwardly from the rear edge of said top and communicating with said broiler to receive vapors therefrom, vent means formed in said flat cooking top over said flue box near said rear edge and having exits directed toward the front of said range, a cover hingedly mounted on said cooking top and adapted when closed to overlie said top and said vent means, said cover having vent means also having their exits directed toward the front of said range and adapted to receive said vapors from said first vent means, whereby said vapors exit toward the front of said range whether said cover is open or closed.

2. In a gas stove or range of the low oven type, a cooking top including burners, an oven positioned beneath said burners, a heating burner therefor, an upstanding back guard at and parallel to the rear of said top, a flue box spaced forwardly from the rear edge of said top and communicating with said oven to receive vapors therefrom, said cooking top being provided with vents near the rear edge thereof and having exits directed toward the front of said range, a cover hingedly mounted on said cooking top and adapted when closed to overlie said cooking top and said vents, said cover being provided with other vents adapted to receive said vapors from said first vents, said second-mentioned vents also having exits directed toward the front of said range whereby said vapors are directed toward the front of said range whether said cover is open or closed.

3. In a gas stove or range, a cooking top including burners, a broiler positioned beneath said burners, a burner for said broiler, a flue box spaced forwardly from the rear edge of said top and communicating with said broiler to receive vapors therefrom, said cooking top being provided with vents near said rear edge and having their exits directed toward the front of said range, a cover hingedly mounted on said cooking top and adapted when closed to overlie said cooking top and said vents, said cover being provided also with other vents formed in said cover and adapted to receive said vapors from said first vents, said second mentioned vents also having their exits directed toward the front of said range whereby said vapors exit toward the front of said range whether said cover is open or closed.

4. A device according to claim 2 in which said back guard protects the wall against which said range is positioned when said cover is closed and in which said cover protects said wall when said cover is opened.

ARTHUR ROSE.