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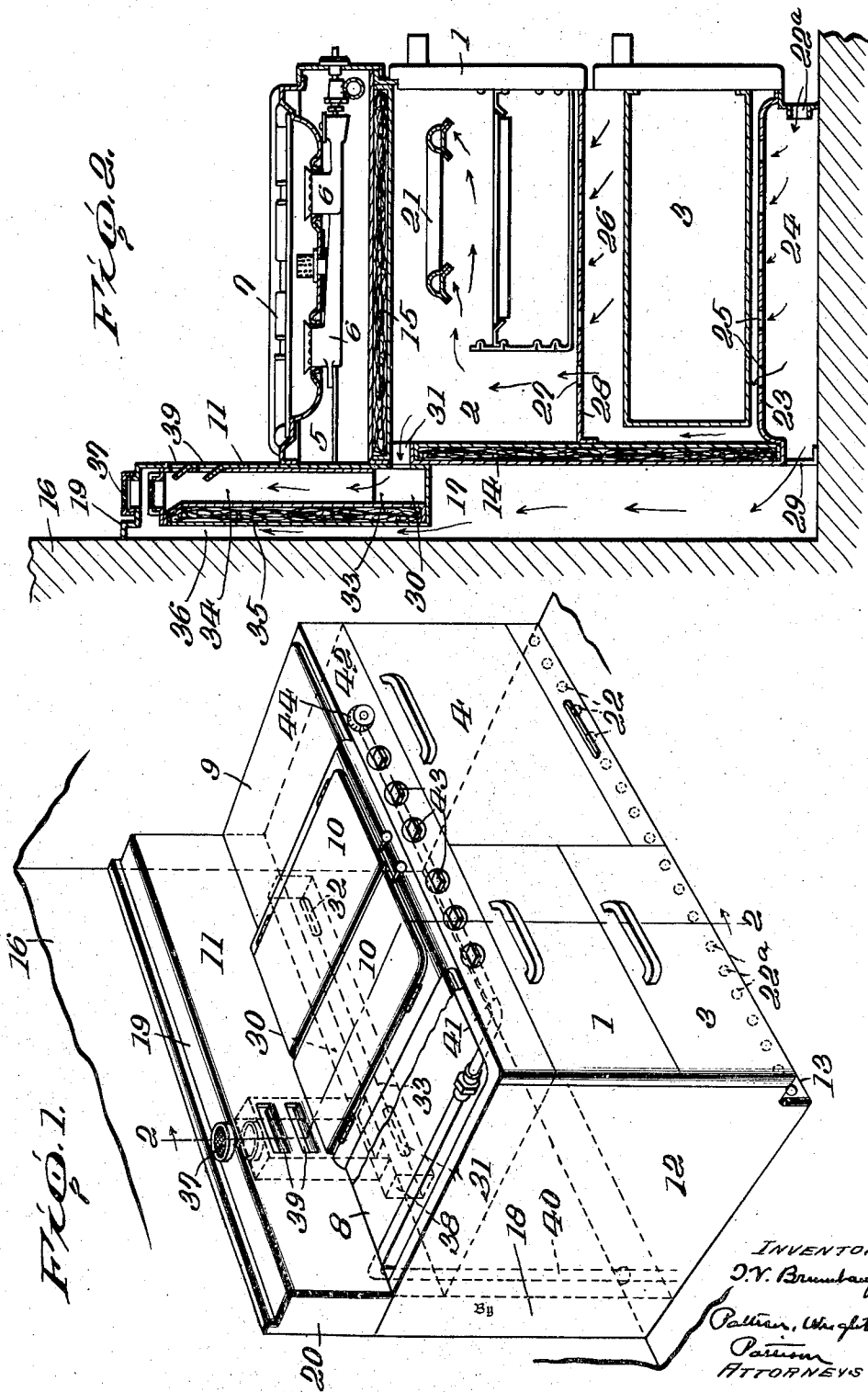
I. V. BRUMBAUGH

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RANGE

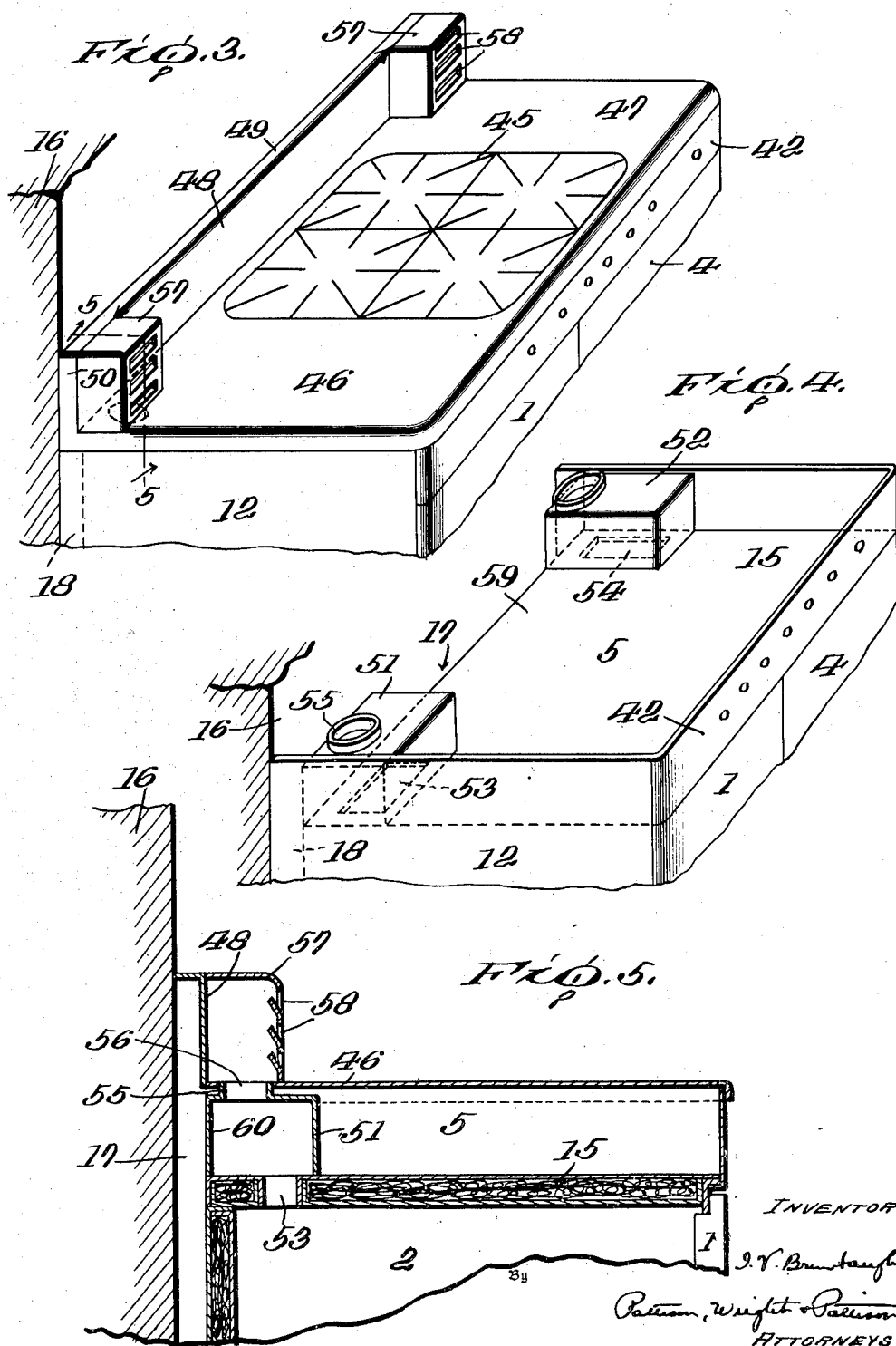
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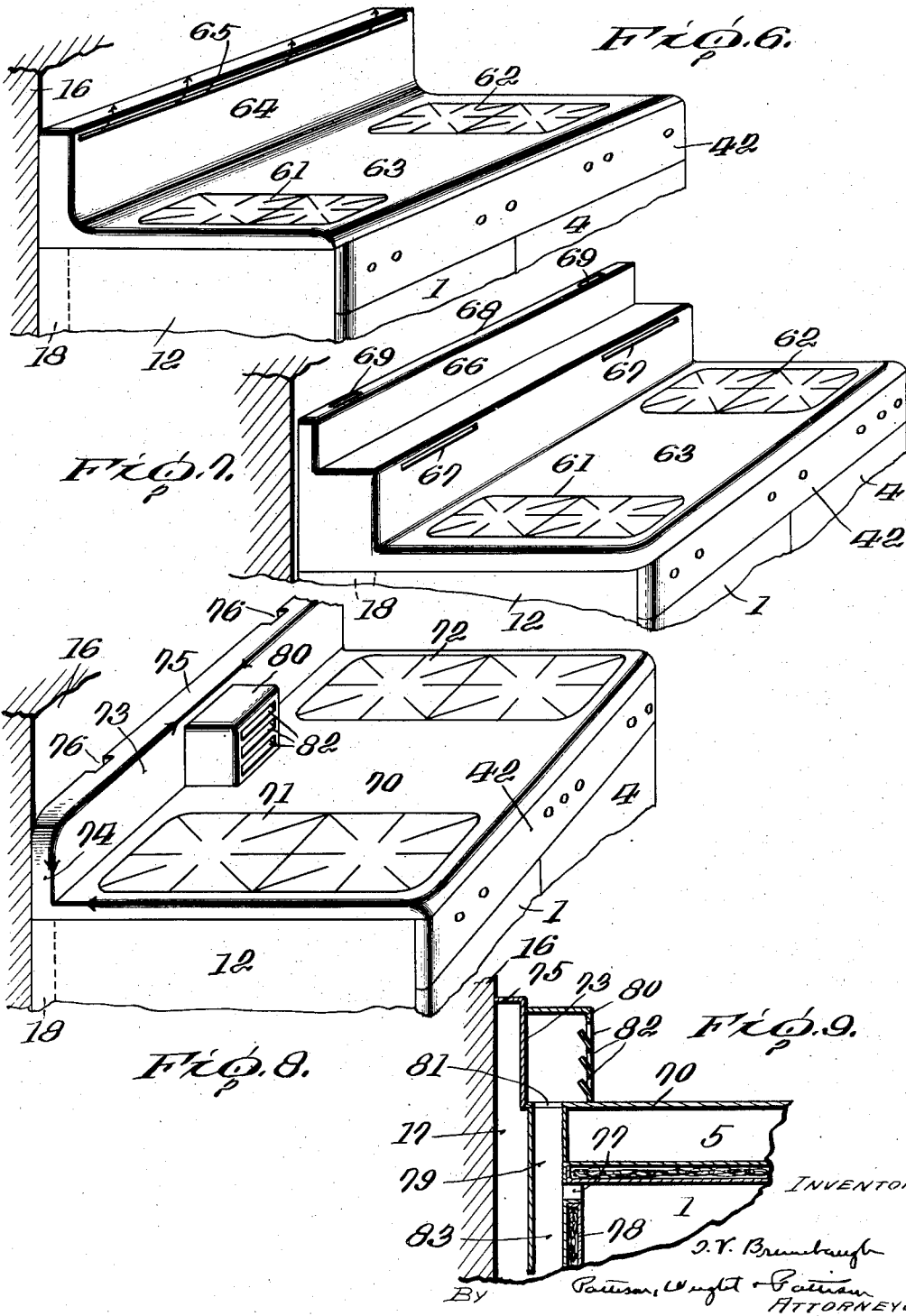
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RANGE

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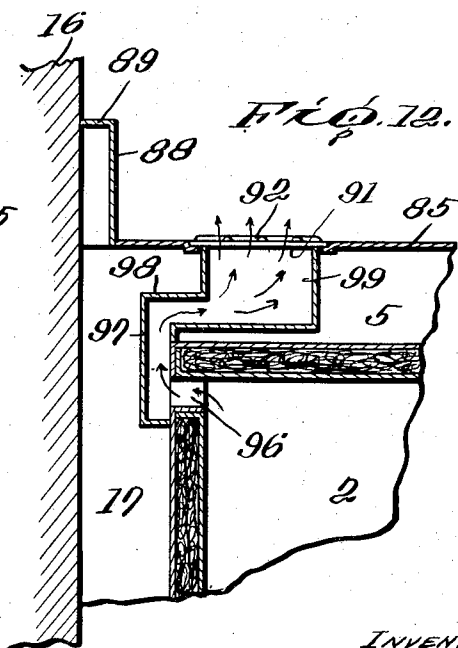
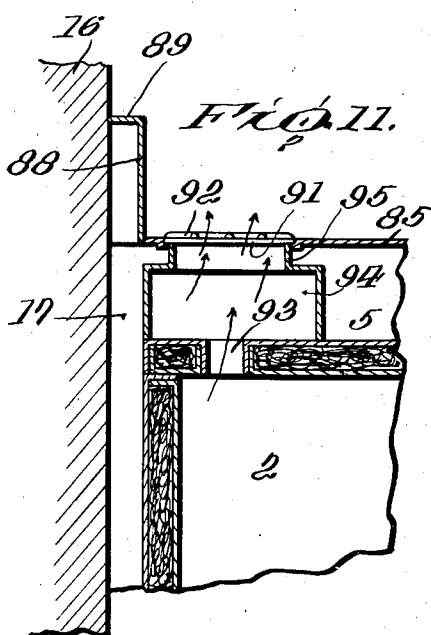
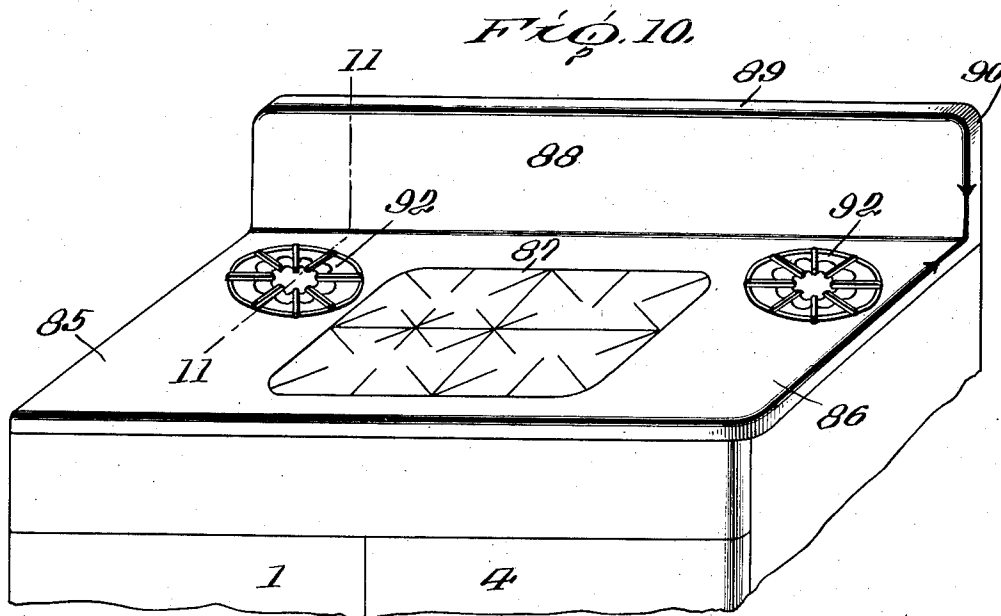
I. V. BRUMBAUGH

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RANGE

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4 Sheets-Sheet 4



INVENTOR

I. V. Brumbaugh

23

Putnam, Wright & Putnam
ATTORNEYS

UNITED STATES PATENT OFFICE

2,376,571

RANGE

Isaac Vernon Brumbaugh, St. Louis, Mo., assignor
to American Stove Company, St. Louis, Mo., a
corporation of New Jersey

Application September 20, 1941, Serial No. 411,737

22 Claims. (Cl. 126—39)

This invention pertains to ranges and more specifically to what I have termed a "flush-against-the-wall" range, and is a continuation in part of my copending application Serial Number 162,045, entitled Ranges, which matured into Patent No. 2,264,657, issued December 2, 1941.

In recent years there has been a concerted endeavor to improve the appearance of kitchens and although great progress has been made ranges have remained an unsightly piece of kitchen furniture for the reason that their rear ends are positioned in separated relationship to the kitchen wall which leaves a space or gap which is particularly noticeable and objectionable as the remaining furniture in the kitchen almost invariably is disposed with its rear ends in flush abutting relationship to the wall of the room.

Although it might appear obvious to correct the foregoing situation it has not been for the reason that ranges invariably discharge the hot products of combustion at their rear ends and this fact together with the heat generated by the ranges has made it dangerous to closely associate the rear ends of the ranges with the wall of the room or to close in the space between the rear end of the ranges and the room wall on account of the danger from fire hazard.

I have devised a novel and improved construction which makes it possible to safely dispose the rear end of cooking ranges in flush relationship to the room wall so that the range as a piece of kitchen furniture will match and blend with the remaining kitchen furniture. Consequently, the primary object of the invention is the provision of a "flush-against-the-wall" range.

In the accomplishment of the foregoing beneficial and improved result novel and improved mechanical construction and arrangement is necessary in respect to the fluing of the products of combustion of the range to discharge; provision for secondary and primary air delivery to the range burners, and the cooling of the chamber behind the rear end of the range and between it and the wall of the room, all of which are objects of the invention and the specific nature of these will appear from the following description when read in the light of the accompanying drawings.

In consideration of the description and drawings attention is directed to the fact that no attempt has been made to illustrate every type or model of cooking range although the present invention is applicable to all models and types of ranges. As illustrative of the foregoing, there are ranges in which the entire cooking top sur-

face is at one end of the range and the entire working or table top surface is at the other and opposite end. In such ranges the cooking top burner chamber does not extend entirely across the top of the range as it does in all of the ranges illustrated in the drawings but on the contrary would lie only beneath the cooking top portion of the range. In such ranges it is conventional for the working or table top portion to constitute the top of the range oven. Additionally there are range models in which there is a single oven which serves the dual purpose of being a baking and a broiling oven. Such model ranges lend themselves equally as well to the adaptation of the present invention. Also there are range models in which the range is supported on legs rather than on a solid base as illustrated in the accompanying drawings. Such a construction will not alter the application of the present invention to the range.

With the foregoing in mind it will be understood that the drawings illustrate only a few forms of range constructions in combination with the present improved invention.

In the drawings:

Fig. 1 is a perspective view of a range.

Fig. 2 is a vertical sectional view through the range of Fig. 1.

Fig. 3 is a fragmentary perspective view of a modified form of range.

Fig. 4 is a fragmentary perspective view of the range illustrated in Fig. 3 with the top thereof removed.

Fig. 5 is a fragmentary vertical sectional view through one end of the range illustrated in Fig. 3 of the drawings.

Fig. 6 is a fragmentary perspective view of a modified form of the invention.

Fig. 7 is a fragmentary perspective view of a still further modified form of the invention.

Fig. 8 is a fragmentary perspective view of another modified form of the invention.

Fig. 9 is a fragmentary sectional view of the range illustrated in Fig. 8 with the top burners thereof removed.

Fig. 10 is a fragmentary perspective view of a further modified form of the invention.

Fig. 11 is a fragmentary vertical sectional view on the line 11—11 of Fig. 10.

Fig. 12 is a fragmentary vertical sectional view of an optional manner of providing flue arrangement for the Fig. 10 construction.

Having reference now to Figs. 1 and 2 of the drawings the range here illustrated is one of the more or less conventional types commonly re-

ferred to as a "divided working top" range in that the cooking top is centrally located and working or table top surfaces are provided at each side thereof. The range comprises a main body or housing at one end of which behind a suitable door 1 is positioned a broiling oven 2 and beneath which is a sliding utensil storage drawer 3.

At the opposite end of the range a baking oven lies behind the door 4. A cooking top burner chamber 5 extends completely throughout the length and depth of the range body above the ovens. In this chamber are positioned the cooking top burners 6 beneath the cooking top grid 7 and the chamber also lies beneath the working or table top portions 8 and 9 at the opposite ends of the range. Like many ranges of this type swinging covers 10 are provided for the cooking top portion of the range when the same is not in use.

The present range like practically all ranges is provided at its rear with a splash back or splash plate 11 which is a vertically disposed plate extending throughout the length of the range and as its name implies is for the purpose of protecting the kitchen wall against stains or discolorations.

The range here illustrated is of the legless type in that the end walls 12 of the range extend completely to the floor and that the front of the range likewise extends completely to the floor but adjacent the floor level is provided with an inset to provide a toe space 13. Practically all ranges today are of the double wall insulated type and so likewise is the present range and in Fig. 2 of the drawings the insulated rear range wall 14 and the insulated oven top 15 are illustrated.

Although the present range provides a piece of furniture having a flush-against-the-wall appearance the rear wall of this range as well as the splash back thereof is in separated spaced parallel relationship to the wall 16 of the room with the result that between the wall and the rear end of the wall there is a space 17 but this space is, as will hereinafter more clearly appear, completely enclosed so as to form of the space a closed chamber.

Closing in the space 17 is accomplished by providing the end walls 12 of the range with a rearwardly extending portion or flange 18 which extends from the rear of the range into an abutting relationship to the room wall and providing the splash back plate with a top 19 and end walls 20 which likewise abut the room wall. The end walls 20 of the splash back are in reality no more than an extension of the rear flanges 18 of the end walls of the range and could be made as such if it were found desirable to do so.

The broiler oven burner appears at 21 and although not illustrated it will be understood that there is a suitable burner in the baking oven. In stoves of the present day type wherein the burners are completely enclosed for the purposes of appearance, it will be necessary to provide both primary and secondary air. This can be accomplished in several ways. In the present instance air is provided for the burner in the baking oven through a series of holes 22 through the rear wall of the toe inset at the front of the range. A similar set of holes 22a are provided to admit air beneath the range bottom 23 at the opposite end of the range beneath the utensil drawer 3. Air entering through these openings passes into the space 24 beneath the range and through openings 25 into the drawer chamber 26 and from that chamber through the openings 27 in the broiler oven bottom 28 into the broiling oven 2. The

rear end of the range is supported on legs 29 and consequently the rear end of the air passageway or chamber 24 and the lower end of the chamber 17 are in communication so that air can pass freely into the lower end of and upwardly in the chamber 17 as clearly indicated by arrows in Fig. 2 of the drawings. This air stream serves a dual purpose as will now be explained.

Across the back of the range adjacent the tops of the ovens thereof a horizontally disposed and elongated flue box 30 is provided. This box lies within the chamber 17 and at one end has communication as at 31 with the broiling oven and at 32 with the baking or cooking oven. Intermediate its length this box is provided with an opening 33 in its top and upon the top of the box and over this opening is disposed a vertically extending flue 34. The vertical flue and the horizontal flue can have a common insulated rear wall 35 which is in spaced parallel relationship to the wall 16 of the room to provide an air passageway 36 which constitutes a continuation of the chamber 17 so as to permit cooling air to pass behind both flues and between them and the room wall for escape through the meshed opening 37 in the top 19 of the splash back.

A portion of the air in and passing through the chamber 17 enters the cooking top burner chamber 5 around the ends 38 of the horizontal flue box 30. This provides primary and secondary air for the cooking top burner chambers and by its passage and circulation over the tops of the ovens will serve as a cooling medium and thus keep down the temperature of the working and table top surfaces 8 and 9.

The front wall of the vertical flue 34 and the splash back 11 are provided with a series of louvers 39 so that the products of combustion generated within the baking and broiling ovens and discharging through the flue box 30 and vertical flue 34 will be discharged forwardly and downwardly through the splash back and away from the room wall to prevent any staining or discoloration of the room wall.

In conformity with providing a range of pleasing appearance the gas supply pipe 40 is concealed behind the range and within the cooking top burner chamber and is connected with a conventional manifold 41 extending across the front of the cooking top burner chamber behind the front panel 42 thereof. At the front of the panel 42 are disposed the plurality of gas cock handles 43 for controlling the supply of fuel to the various burners and here also is located the temperature dial or wheel 44 when the range oven is provided with thermostatic heat control.

With a range of the construction described it will be seen that the appearance of the kitchen is greatly enhanced as is also the appearance of the range itself. Fire danger is avoided because the accumulation of heat in the chamber 17 is prevented by a continuous circulation of a cooling air stream therethrough and particularly behind the range outlet flues so as to maintain a constant heat insulating medium between these flues and the wall of the room. Primary and secondary air is provided for all of the burners of the range and the hot products of combustion are discharged in a manner to guard against and prevent the heretofore objectionable discoloration of the paper or paint of the room wall. Additionally the necessity of painting or papering behind the range, as has been necessary with ranges which are disposed in spaced relationship to the kitchen wall, is obviated. All unsightly

parts of the range such as the gas supplying pipes are concealed as is also the cooking top portion of the range by the covers 10 when the range is not in operation. It will be further evident that the present range will simplify keeping the kitchen in a sanitary condition. With the old type of range the space between it and the wall was most difficult to get at to dust and clean and the necessity of this with the present range is removed.

Referring now to the slightly modified construction illustrated in Figs. 3 to 5 inclusive of the drawings, the same general type of range appearing in Figs. 1 and 2 of the drawings is again illustrated in that the range is of the divided working top type with the cooking top positioned intermediate the ends of the range.

Here the cooking top 45 is flanked with table top working portions 46 and 47. There is the same broiling oven behind the door 1 and baking oven behind the door 4. The ends 12 of the range extend into flush abutting relationship to the room 16 and the splash back 48 has a top 49 and end walls 50 which together with the extending portions 18 of the range end walls close in the chamber 17 behind the range. The main difference between the range here illustrated and that appearing in Figs. 1 and 2 of the drawings resides in the fact that there are two flues provided for the escape of the products of combustion and these flues are not disposed behind the splash back 48 but on the contrary are in front thereof although being behind the range proper.

By reference to Fig. 4 of the drawings it will be seen that within the cooking top burner chamber 5 there are a pair of flue boxes 51 and 52. The box 51 is above an opening 53 in the top of the broiler oven and the box 52 above an opening 54 in the top of the baking oven. Each of these boxes is provided with a vertically extending flue 55 the upper open end 56 of which passes through the working top portion of the range immediately above the box. This places the flue outlet openings 56 at the opposite rear ends of the range immediately in front of the base of the splash back 48. Over each of these flue outlet openings there is placed a box-like member 57 having in its front wall louvers 58 through which the products of combustion escape and are directed forwardly and downwardly away from the splash back and the wall of the room to prevent any possibility of staining or discoloring said wall.

In this construction, just as in the previously described construction, there is the air chamber 17 behind the range and air is supplied to the oven and cooking top burners in the manner described in respect to the Figures 1 and 2 construction. It will be obvious that air from the chamber 17 can enter (see Fig. 4 of the drawings) the cooking top burner chamber through the space 59 between the flue boxes 51 and 52. The air within the chamber 17 constitutes a cooling insulation between the room wall and the rear walls 60 of the flue boxes and the splash back 48.

Figures 6 and 7 of the drawings illustrate further modified forms of the invention the modifications residing particularly in two distinctions. Here the ranges are provided with cooking top portions 61 and 62 in spaced relationship at opposite ends of the ranges while the table top working surface 63 is positioned centrally of the length of the range.

In the Figure 6 construction the flue outlets for

the ovens will lie behind the splash back 64 and these will discharge through an elongated slot 65 in the front of the splash back near its upper edge. This same slot will provide for the escape of cooling air which is circulated through the chamber 17 behind the range and splash back and thus serves a dual purpose.

In the Figure 7 construction the splash back 66 is of step-like formation having in its front a pair of slots 67 through which the hot products of combustion conveyed to them by the flues behind the splash back will discharge. The top 68 of the splash back is provided with spaced slots 69 for the escape of cooling air from the chamber 17 behind the range and splash back.

In both of these constructions the chamber behind the range is completely closed as clearly illustrated in these figures of the drawings, as has been pointed out in the previously described constructions.

Figures 8 and 9 are illustrative of a slightly modified form of flue and the inventive idea here illustrated could be incorporated into the previously described forms of the invention.

In these figures of the drawings there is a centrally arranged working top surface 70 with cooking top surfaces 71 and 72 at each side thereof and at the ends of the range. The splash back 73 is provided with ends 74 and a top 75. This top is notched out as at 76 for the escape of cooling air from the chamber 17 behind the range and splash back. This construction has similarity to the Fig. 2 construction in that the hot products of combustion from the broiling oven pass through an opening 77 in the rear wall 78 of the oven into a flue 79 behind the range. This flue is in a plane forward of the splash back and communicates with the deflector box or housing 80 through an opening 81 provided in the working top portion of the range. This box is provided at its front with louvers 82 for deflecting the hot products of combustion forwardly and downwardly.

The lower end 83 of the flue 79 is open to communication with the air chamber 17 and consequently if the louver openings 82 of the box 80 should become clogged or closed by a towel, dish cloth or some like instrumentality the hot products of combustion could in this emergency pass downwardly through the open lower end of the flue into the chamber 17 and escape through the notches 76 in the top 75 of the splash back. This feature I call a "flue relief" and is the feature previously mentioned as being one which could be incorporated into the other forms of the invention with very minor modifications of the flue constructions illustrated in those forms.

In the constructions illustrated in Figures 3 to 5 and 8 and 9 of the drawings the flues are not illustrated as having insulated rear walls. Insulation of these walls can be eliminated if desired as the air circulating through the chamber 17 is sufficient to overcome any fire hazard.

It is to be understood that the air inlet need not necessarily be positioned at the front of the range but could be in the end walls thereof or otherwise disposed in any manner which would provide air for accomplishing the hereinbefore enumerated functions.

In Figs. 10 and 11 a slightly different form or model of the range is illustrated. Like the Fig. 3 construction the range is a divided working top type having working top portions 85 and 86 at the opposite sides of the cooking top portion 87. The splash back 88 closes in the chamber 17 behind the range by reason of having a rearwardly

extending top portion 89 and end portions 90. The broiling and baking ovens vent their hot products of combustion through openings 91 in the table top working portions which openings are covered by suitable grids 92. The manner in which the ovens are connected to these grid covered outlet openings appears in Fig. 11 of the drawings in which it will be seen that the ovens are provided in their tops with an outlet opening 93 communicating with a flue box 94 having an extending flue portion 95 connecting the box with the aforementioned opening 91. In this construction the oven flue outlets lie in a plane forward of the front of the splash back plate and air for the cooking top burners within the cooking top burner chamber 5 can pass freely from the air chamber 17 behind the range into said cooking top burner chamber through the open rear end thereof between and around the flue boxes 94.

The Fig. 12 construction illustrates a modified manner of connecting the ovens with the openings 91 in the table top working surfaces of the range. In this instance the ovens have outlet openings 96 in their rear walls from which flue conduits 97 extend upwardly in the air chamber 17 behind the range and have their upper ends extending forwardly as at 98 for connection with flue boxes 99 in the cooking top burner chambers 5 which flue boxes have open upper ends connected to the outlet openings 91 in the table top working portions of the range. In this construction the portions of the flue outlet conduit which are behind the range lie in a plane forward of the front of the splash back plate 88. Air is admitted to the cooking top burners in the manner described in respect to the Fig. 10 construction.

In the constructions illustrated in Figs. 10 to 12 inclusive air can continuously circulate upwardly through and outwardly from the air chamber 17 by passing into the open rear end of the cooking top burner chamber and escaping through the cooking grid constituting the cooking top portion 87 of the ranges or if preferred an opening can be placed in the top, front or end walls of the splash back to permit the escape of air from the chamber 17.

I claim:

1. In a range, a housing having therein an oven and a cooking top burner chamber with burners therein and a cooking top portion thereabove, a splash back plate adjacent the rear end of said housing, walls extending rearwardly from the top and end edges of said splash plate and from the rear ends of the ends of said housing, said housing and splash plate wall extensions adapted to abut a wall of a room to form behind said range an air chamber, said oven having an outlet opening, a flue outlet conduit connected with said opening and having a discharge opening in front of said splash plate, said conduit having a portion of its length in heat exchange relationship with said air chamber, means admitting air to said air chamber adjacent the lower end thereof, and the air in said air chamber forming a heat insulating and cooling medium between said flue outlet conduit and the wall of said room.

2. In a range, a housing having therein an oven and a cooking top burner chamber with burners therein and a cooking top portion thereabove, a splash back plate adjacent the rear end of said housing, walls extending rearwardly from the top and end edges of said splash plate and from the rear ends of the ends of said housing, said housing and splash plate wall extensions adapted to abut a wall of a room to form be-

hind said range an air chamber, said cooking top burner chamber having communication with said air chamber, the rear wall of said oven constituting a portion of the rear wall of said range housing, means admitting air to said air chamber at a point below the bottom of the oven, said oven having an outlet opening and a flue outlet conduit connecting said opening with a discharge opening disposed at a point in front of said splash plate, said conduit having a portion of its length in heat exchange relationship with said air chamber, and the air in said air chamber forming a heat insulating and cooling medium between said flue outlet conduit and the rear end of said range housing and the room wall behind the range.

3. A construction as defined in claim 1 wherein, means is provided for directing the hot products of combustion discharged from the discharge opening of the flue outlet conduit forwardly of the range.

4. A construction such as defined in claim 1 wherein, said splash plate is provided with an air outlet opening.

5. A construction such as defined in claim 1 wherein, the air chamber is provided with an outlet disposed to discharge at a point above the housing, and said flue outlet conduit having communication with said air chamber and discharging therein in the event the discharge opening of said flue is closed or clogged for any reason.

6. In a range, a housing having therein an oven and a cooking top burner chamber with burners therein and a cooking top portion thereabove, a table top working surface on the top of said housing and adjacent said cooking top portion, a splash back plate on said housing at the rear end thereof behind said cooking top and table top working portions, the end walls of said range housing and sides and top of said splash plate provided with rearwardly extending portions adapted to abut the wall of a room to form behind said range and said splash plate an air chamber, said air chamber at a point above the oven having communication with the room for the escape of air from the chamber, said oven having an outlet opening, a flue outlet conduit connected with said opening and to a discharge opening in said table top working portion in front of said splash plate, said conduit having a portion of one of its walls in heat exchange relationship with said air chamber, and means admitting air to said chamber at a point below the bottom of said oven, whereby air is circulated and forms a heat insulating medium behind the entire rear end of said range housing and between said wall portion of said flue outlet conduit and the wall of said room.

7. A construction such as defined in claim 6 wherein, said flue outlet conduit has communication with said air chamber, and said flue outlet conduit discharging into said air chamber in the event the conduit discharge opening in the table top working portion of the range for any reason becomes clogged or closed.

8. A gas range comprising, a housing having therein an oven and a cooking top burner chamber with a cooking top portion thereabove, a splash-back plate extending upwardly from and substantially in vertical line with the inner rear end of said range housing, a vertically extending flue back of said housing and having communication with said oven and discharging at a point

in front of said splash back plate and above said housing, a rearwardly extending wall at the ends of said housing and at the sides and top of said splash plate, said wall extensions of a width to reach a wall of a room to form a flush-against-the-wall range with an air chamber behind the range housing and splash plate throughout the width thereof, means admitting air to the lower end of said air chamber, communication between said cooking top burner chamber and said air chamber to provide primary and secondary air for the cooking top burners, and said splash plate provided with an air outlet opening to make of said air chamber an air conduit through which cooling air is circulated to prevent said oven and the outlet conduit thereof and said cooking top burners from dangerously overheating the room wall behind the range.

9. In a range adapted to be positioned in front of and have its rear end in separated relationship to the wall of a room, said range comprising a housing having therein an oven and thereabove a cooking top burner chamber with a cooking top portion, a splash-back plate for said cooking top portion extending vertically from and throughout the width of the housing at a point closely adjacent the rear end of the housing, the ends of said housing and the ends and top of said splash plate provided with portions extending rearwardly beyond the range housing and the splash plate and adapted to engage the wall behind the range to completely enclose the space between the rear end of the range and splash plate and the wall, said oven having an outlet opening, a flue outlet conduit connected to said opening and having an outlet communicating with the atmosphere exterior of the range housing, said conduit having a portion of its length in heat exchange relationship with said space, means for admitting air to the lower end of said space, and means permitting the discharge of air from said space at a point above the oven, for the purpose described.

10. In a range, a housing having therein an oven and in its upper end a cooking top burner chamber with burners therein, an open cooking top on the top of said housing above said burner chamber and a table top working surface on said housing top adjacent said cooking top, a splash-back plate vertically disposed and extending transverse the top of said housing adjacent the rear end thereof, the ends of said housing and the ends and top of said splash plate being provided with rearwardly extending portions adapted to abut the wall of a room to form behind said range an air chamber, said oven being provided with an outlet opening, a conduit extending from said opening and discharging through the working top portion of said range housing top at a point forward of said splash plate, said conduit having a portion of its length in heat exchange relationship with said air chamber, said cooking top burner chamber having communication with said air chamber, and means admitting air to said air chamber at a point below the bottom of the cooking top burner chamber, for the purpose described.

11. A construction such as defined in claim 10 wherein, said outlet opening in the working top portion of the range housing top has associated with it means for directing the escaping hot products of combustion forwardly and downwardly in respect to the room wall behind the range.

12. A construction such as defined in claim 1

wherein, the cooking top portion of said range housing extends rearwardly beyond the rear wall of the oven and the said splash-back plate extends upwardly from the rear end of said cooking top rearward extension portion.

13. In a range, a housing having therein an oven and in its upper end a cooking top burner chamber with burners therein, an open cooking top on the top of said housing above said burner chamber and a table top working surface on said housing top adjacent said cooking top, a splash-back plate vertically disposed and extending transverse the top of said housing, walls extending rearwardly from the top and end edges of said splash plate and from the rear ends of the ends of said housing, said extending walls adapted to abut the wall of a room to form behind said range an air chamber, the rear end of said oven being provided with an outlet opening, a conduit extending from said outlet opening and discharging through the working top portion of the range housing top at a point forward of said splash plate, said conduit having a portion of its length in heat exchange relationship with said air chamber, said air chamber at a point above the oven communicating with the atmosphere for the escape of air from the chamber, and means admitting air to said air chamber adjacent the lower end thereof, whereby air circulates upwardly through said air chamber for the purpose described.

14. A gas range comprising a housing having therein an oven, a gas burner in said oven, said housing having in its upper end a cooking top burner chamber having a gas burner therein, a vertical splash plate extending upward from the rear end of said housing, walls extending rearwardly from the top and end edges of said splash plate and from the rear ends of the ends of said housing, said extension walls adapted to abut a wall of a room to form a vertical air chamber between said room wall and the back of said housing and splash plate to form a flush against the wall gas range, the rear end of said oven being in heat exchange relationship with said air chamber, said splash plate being provided with an air escape opening for said air chamber at a point above the top of the range, and said air chamber having an air inlet adjacent its lower end, the parts operating for the purpose described.

15. A gas range comprising a housing having therein an oven, a gas burner in said oven, said housing having in its upper end a cooking top burner chamber having a gas burner therein, a vertical splash plate extending upward from the rear end of said housing, the ends of said housing provided with vertical walls extending rearwardly beyond the back of said housing, horizontal and vertical walls extending rearwardly from the horizontal and vertical edges of said splash plate, said extension walls adapted to abut a wall of a room to form a vertical air space between said room wall and the backs of said housing and splash plate, said oven at its back end having an opening for the escape of the products of combustion of its burner, said combustion products to escape at a point in front of said splash plate, said conduit having a portion of its length in heat exchange relationship with said air chamber, said splash plate being provided with an air escape opening above the top of the range, said air space having an air inlet below the top of said housing, the parts forming a flush against the wall range and operating to furnish

a moving stream of air through said air space for cooling the room wall and rear of said housing.

16. A gas range comprising, a housing having therein, an oven containing a gas burner, a cooking top burner chamber in the upper end of said housing having a burner therein, a splash plate extending vertically upward from the rear end of and extending throughout the width of said housing, the ends of said housing having extension wall portions adapted to about a wall of a room behind the housing, horizontal and vertical walls extending rearward from the edges of said splash plate and adapted to about a wall of a room, said extension walls acting to form a closed air chamber back of said housing and splash plate, said oven at its back end having an outlet provided with a conduit extending upward and through said cooking top burner chamber top and to discharge at a point in front of said splash plate during the operation of said oven burner, said conduit having a portion of its length in heat exchange relationship with said air chamber, said air chamber having an air inlet at a point below the bottom of the oven, and said air chamber and cooking top burner chamber having communication with one another.

17. A flush against the wall gas range, comprising a housing having therein an oven containing a gas burner, a cooking top burner chamber in said housing at a point above said oven, a splash back plate extending upward from the rear end of said housing, walls extending rearward from the top and end edges of said splash plate and from the rear ends of the end walls of said housing, said extension walls adapted to about a wall of a room behind the housing to form a vertical air chamber extending throughout the back of said housing and said splash plate, said oven having an outlet opening, an outlet box in said cooking top burner chamber, a flue conduit connecting said oven outlet opening with said outlet box, said conduit having a portion of its length in heat exchange relationship with said air chamber, said outlet box discharging at a point in front of said splash plate, and said air chamber being provided with an air inlet at a point adjacent the bottom of the oven.

18. In a range, a housing having therein an oven and in its upper end a cooking top burner chamber with a cooking top portion thereabove, gaseous fuel burners in said oven and said cooking top burner chamber, said cooking top burner chamber having communication with the atmosphere, a splash-back plate extending upwardly from said housing adjacent the rear end thereof, walls extending rearwardly from the rear ends of said housing end walls and from the ends and top of said splash-back plate, said wall extensions adapted to abut a wall of a room in which the range is located to form an air chamber behind the range, the oven having an outlet opening for the escape of hot products of combustion,

a flue outlet conduit connected to said oven outlet opening and having a discharge opening communicating with the atmosphere at a point above the range oven, the rear wall of the oven and a portion of the length of said outlet conduit being in heat exchange relationship with said air chamber, means admitting air into said air chamber adjacent the lower end thereof, escape means communicating with said air chamber at a point above said oven for the passage of air from said air chamber, and the air in and passing through said chamber acting to cool the chamber and to form a heat insulating medium between the room wall and the oven and flue outlet conduit.

19. A construction as defined in claim 18 wherein, the escape means for air from the air chamber comprises a communicating opening between the air chamber and the cooking top burner chamber.

20. A construction as defined in claim 18 wherein, the discharge opening of the flue outlet conduit and the air escape means of the air chamber communicate with the room at a point between the front of the range housing and the splash-back plate.

21. In a range, a housing having therein an oven and a cooking top burner chamber provided with a cooking top, gaseous fuel burners in said oven and chamber, a splash back plate extending upwardly from said housing adjacent the rear end thereof, walls extending rearwardly from the ends of said housing and from said splash plate and adapted to abut the wall of a room in which the range is located to form an air chamber behind the range, the oven provided with an outlet opening for the escape of hot products of combustion, a flue outlet conduit connected to said oven outlet opening and having a discharge opening communicating with the atmosphere forwardly of said air chamber, a portion of the length of said outlet conduit being in heat exchange relationship with said air chamber, an inlet for the admission of air into said air chamber at a point below the oven, said cooking top burner chamber having an escape opening for the passage of air and the hot products of combustion generated by the burners in said chamber, said air chamber and said cooking top burner chamber having communication with one another for the passage of air from the air chamber into and out of the cooking top burner chamber, and the air in and passing through said air chamber acting for the purpose described.

22. A construction as defined in claim 21 wherein, the oven is provided with an air inlet opening for the passage of some of the air which is admitted by the air inlet to the air chamber, and the air admitted to said oven being for the purpose of supplying secondary air to the burner within said oven.

ISAAC VERNON BRUMBAUGH.