

H. W. O'DOWD,

GAS RANGE,

APPLICATION FILED OCT. 8, 1920.

1,403,814.

Patented Jan. 17, 1922.

4 SHEETS—SHEET 1.

Fig. 1,

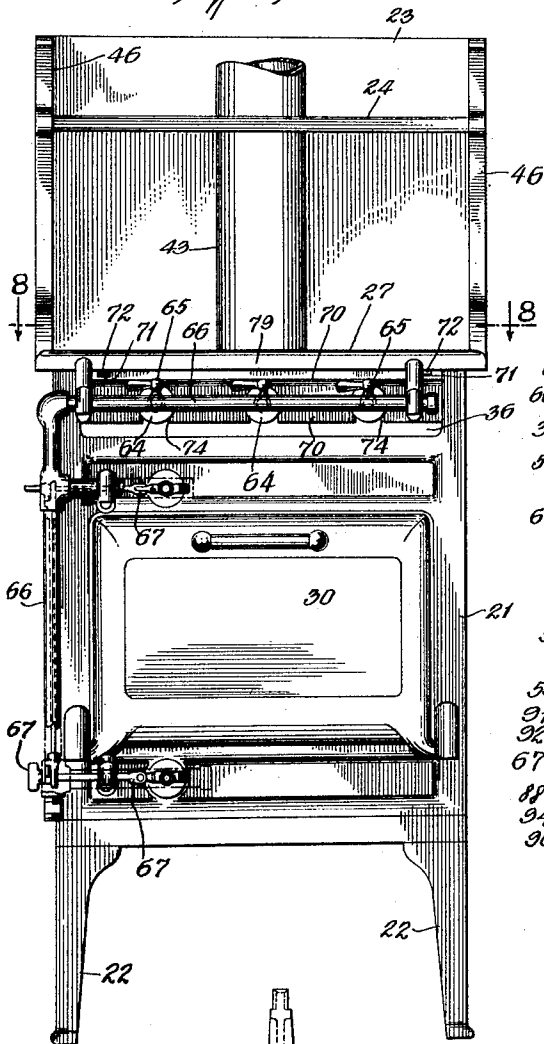


Fig. 2,

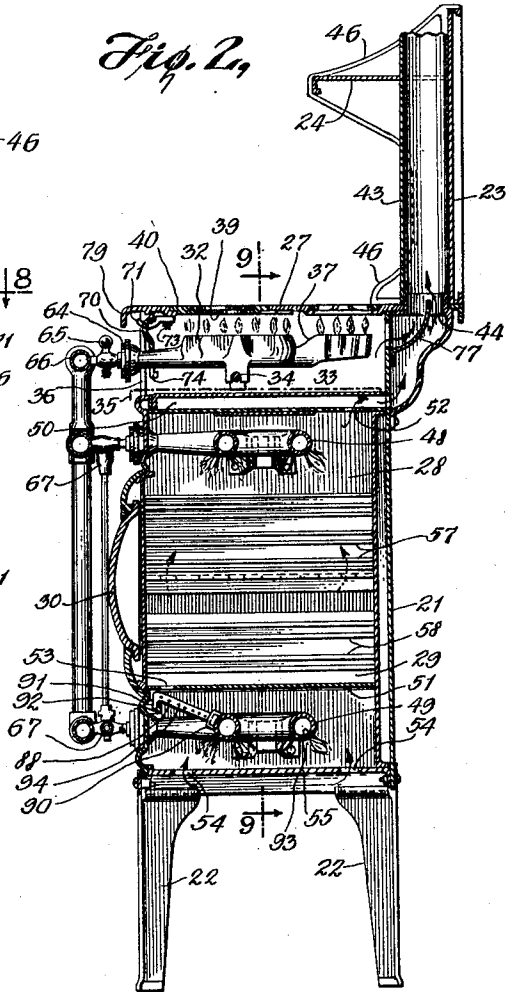
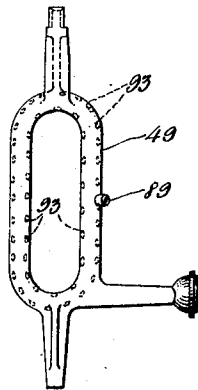


Fig. 3,



Henry W. O'Dowd, Inventor
By his Attorney Wm. J. Blau.

Fig. 6,

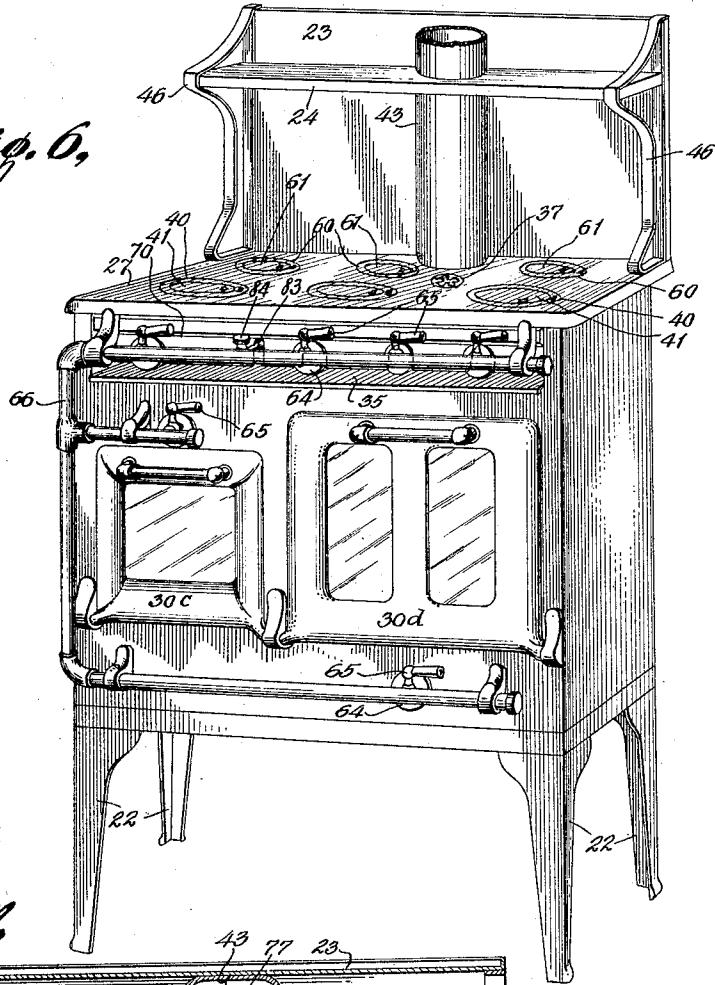
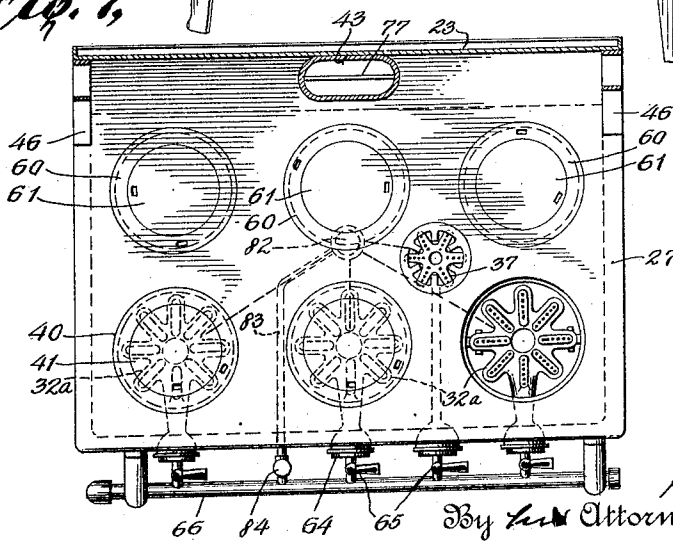


Fig. 7,



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4 SHEETS—SHEET 4.

Fig. 8,

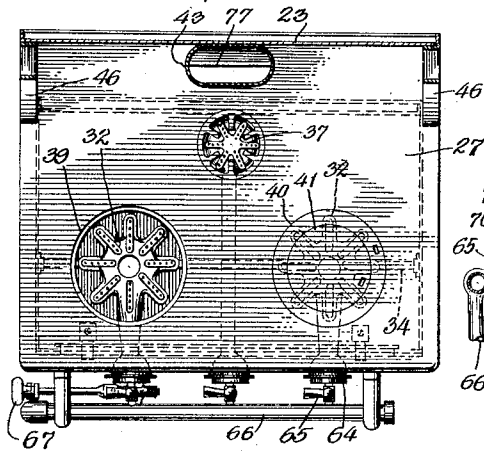


Fig. 10,

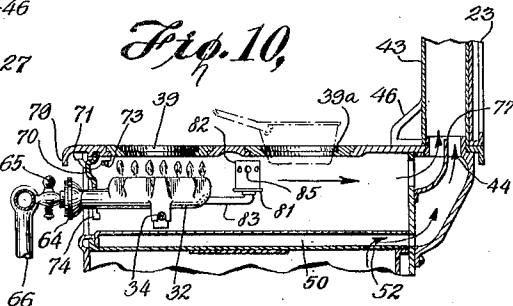


Fig. 9,

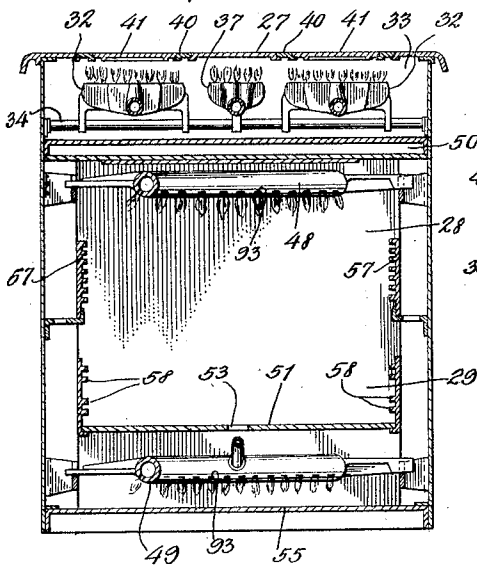
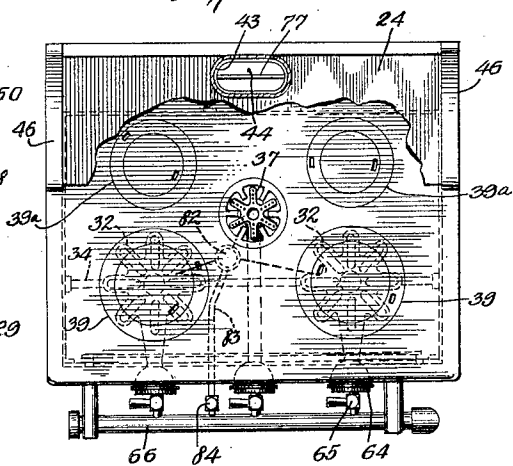


Fig. 11,



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By his Attorney Wm. J. D. D. .

UNITED STATES PATENT OFFICE.

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GAS RANGE.

1,403,814.

Specification of Letters Patent. Patented Jan. 17, 1922.

Application filed October 8, 1920. Serial No. 415,476.

To all whom it may concern:

Be it known that I, HENRY W. O'DOWD, a citizen of the United States, residing at Jersey City, county of Hudson, and State of New Jersey, have invented certain new and useful Improvements in Gas Ranges, of which the following is a specification.

This invention relates generally to cooking apparatus adapted to perform the various culinary operations of frying, stewing, baking, or broiling, and in a more restricted sense it appertains to stoves or ranges that are intended to consume gas, either natural or artificial, or any volatile fuel having substantially similar characteristics.

One of the objects of the invention is to produce a range of the type mentioned which shall be truly sanitary, not alone on account of the absence of ashes, clinkers, and other refuse which the employment of fluid fuel obviates, but also by virtue of its peculiar structure placing it at a sufficient elevation to be cleaned underneath as well as from all sides, and concomitantly raising its cooking surfaces to the most convenient heights for the management of the multitudinous utensils that a scientifically contrived stove should accommodate.

Another object is the production of a range of the nature set forth wherein the fires at the top, and elsewhere, shall be covered in such manner as to leave no exteriorly exposed grids, spiders, or like impediments preventing the utensils from being freely slid thereover, and yet will be capable of yielding promptly all the heat required and of the proper intensity to effect the cooking in the most favorable conditions.

Still another object is to provide a range of the class referred to having the covered fires aforesaid aligned or otherwise disposed so as to preclude interference between any two or more among them while burning simultaneously, the same being equally enabled to discharge their products into a flue, and amply supplied with secondary air to support combustion, as also to promote a draught that will stimulate each individual flame and incidentally relieve it of noxious emanations.

A further object is the provision of a range of the character described affording a practical and effective arrangement of burners severally placed in convenient positions

to light, inspect, and regulate, none imposing upon the operator the risk of reaching over one fire while lighting another, but all co-operating to diffuse the heat to the greatest possible extent, thereby enlarging the cooking capacity of the range and permitting reductions in certain sizes thereof which will enable the same to be used in locations that were formerly considered too restricted.

Other objects and advantages of the invention will in part be obvious and in part be incidentally explained in the following description.

The invention consists in the novel improvements, parts, combinations, and features of construction herein shown and described.

In the accompanying drawings, which are referred to herein and form part hereof, are illustrated several embodiments of the invention, the same serving in connection with the description herein to explain the principles of the invention.

Of the drawings:

Figure 1 is a front elevation of a gas-range embodying the preferred form of the invention, as now practised;

Figure 2 is a vertical transverse section thereof;

Figure 3 is a plan view of one of the oven burners, removed from the range;

Figure 4 is a perspective view showing a gas-range of type similar to that represented in the preceding figures, but of somewhat larger dimensions;

Fig. 5 is a top plan view of the range shown in Fig. 4, certain parts being in section and others broken away to expose to view the relative arrangement of the burners and of an igniter employed in connection therewith;

Fig. 6 is a perspective view of a gas-range resembling that illustrated in Fig. 4, but differing therefrom in the arrangement of the ovens and of the top cooking surface;

Fig. 7 is a top plan view of the range represented by Fig. 6, one burner being uncovered and certain parts appearing in section;

Fig. 8 is a similar plan of the range shown in Figures 1 and 2, the section being on line 8-8 of Fig. 1, looking downward;

Fig. 9 is a front sectional elevation showing only the body of a gas-range of the type

exemplified in Figures 1, 2 and 8, the section being taken from line 9—9 of Fig. 2, looking toward the right;

Fig. 10 is a side sectional elevation of the upper part of a range similar in form to that illustrated in Fig. 1, but having a cooking surface of modified construction; and

Fig. 11 is a partly-broken top plan view of the range structure shown in Fig. 10.

In pursuance of the objects hereinbefore stated, the invention is embodied in a gas-burning range the body of which is sufficiently elevated to permit the introduction of cleaning implements thereunder, and at the same time bring up the burners, ovens, and generally speaking, all heating plates or surfaces to such heights as will enable the operator to put on or in, and take off or out, the various cooking utensils practically without bending over or stooping. The said body, in the several forms of the invention herein exemplified, is designed to contain a plurality of burners, disposed at different levels, and it has a closed smooth-surfaced top covering the upper burners, which are located in the forward section of the range. Two, three, or more of these burners may be placed under the top, and as they are covered thereby, no obstruction whatsoever is offered to the sliding or shifting of the utensils over the surface, as was the case heretofore, when the burners were constantly exposed to view and protected merely by grids or spiders, with radial or similar projections. Openings registering with the upper burners are provided, however, in the closed top, to allow the utensils to be subjected directly to the action of the flames, whenever wanted, but at other times these openings are closed by means of lids and rings lying flush with the top, so that it will present normally one smooth expanse over which the utensils can be freely moved. The upper burners are disposed in a single row within a heat-generating chamber and are situated forwardly of a medium line extending longitudinally of the range. In the rear of this middle line, the heating chamber is left vacant so as to provide a relatively large section designed to be heated by the products of combustion, which are led therefrom to an outlet flue at the back, and urged therein by appropriate draught provisions. To the outlet is connected a vertically disposed conduit that rises centrally within a superstructure including shelving arranged to project toward the front over the cooking surface. Below the latter, and directly under the chambers aforesaid, are ovens of various types, peculiar to the several forms of the invention, which also are equipped with burners and made to discharge their products of combustion into the said outlet. All of the burners are so positioned and distributed as to avoid interference with one another and develop

the greatest attainable efficiency in ranges of slender dimensions.

Referring now in detail to Figs. 1, 2, 8, and 9, the form of gas-range shown therein comprises a rectangular body 21, composed of the usual metal plates, sheets or castings, mounted on legs 22, or other equivalent support, and carrying a light superstructure 23, with one or more shelves, as 24, all of which give the range a cabinet-like appearance pleasing to behold as well as lending itself fully to utilitarian purposes. This form of range is advisedly made of slender dimensions, to adapt it for use in apartments of any size, whether or not limited in space, and to afford additional room therein for things that a larger stove naturally would crowd out. As the range is raised from the floor by its support, the empty space under it provides a convenient, temporary place of storage for various articles while the cooking is attended to, the same being immediately accessible to the user, and admitting of thorough cleansing thereafter, so as to maintain the range and its surroundings in strictly sanitary conditions.

The height of the range's body, above its legs or other base referred, correspondingly influences the position of the divers cooking instrumentalities thereof, which in the form of the invention now considered, comprise a closed top 27, of substantially smooth surface throughout; a subjacent space 28, for broiling; and a lower baking space 29, the latter two sections constituting a duplex oven and being normally closed by a single door 30, common to both. By preference, the top 27 is approximately waist-high, its elevation from the floor or foundation on which it rests being determined by the average stature of a woman operator, and so that the distance intervening between the top's surface and the baking section of the oven shall about equal the length of the forearm, with the broiling space occupying an intermediate position. Due to this arrangement, the operator can attend to all the cooking operations while standing naturally erect, and she is not required in manipulating the utensils on and in the range, to place any one among them higher than the bend of her elbow or to set it down lower than at arm's length. Consequently, the entire work at the range can be accomplished without stooping or bending over it, and thus is removed a prolific cause of backaches and other ailments which operators of ill-proportioned stoves in the past have had to endure.

Under the top 27 aforesaid are placed two or more burners, as 32, preferably of the radial-armed variety and of equal dimensions, as shown. These burners are near the front, on a line substantially parallel therewith, and consequently are most accessible, individually. They are mounted

in a heat-generating chamber 33, where they rest on a rod or bar 34, traversing the same. This rod keeps the burners raised from the floor of the chamber, and under it is placed
5 a pan 35, preferably enamelled and designed to receive matter that might fall off the utensils. The pan is indicated merely by a dot-and-dash line in Fig. 2, though it shields the entire floor area below the top
10 27. It is introduced under the burners through an opening 36, that extends approximately the full width of the range in front, and provides a passage for secondary air to support combustion. The rear of the
15 burners 32 is set forward of the center of the top 27, and no other burner is used back of that center, except a very small one 37, employed simply to maintain a coffee percolator at the desired degree of heat, or for
20 some similar purpose. The small burner 37, it will be noted, is at the apex of a triangle formed by it and the main burners 32, and therefore can be lighted at any time without reaching over or crossing the flame of either
25 one of the said main burners.

The closed top 27 effectively covers the burners and presents a smooth surface thereover, with no exteriorly projecting grids or spiders, such as are commonly met with in
30 gas-stoves and which constitute obstructions in the ordinary stove surface, offering obstacles to the free sliding or shifting of the utensils, besides being objectionable in that they become coated with soot and grease
35 and must be cleaned frequently. The top 27, however, is provided with openings 39, that register with the burners and enable the utensils to be exposed directly to the flames, if desired. These openings are normally covered by means of removable rings
40 40, and lids 41. As indicated in the drawings, the flames from the top burners are directed upward, at right angles to the top 27, or to the utensils, which feature is particularly useful in obtaining the proper
45 flame propagation and in allowing the burners to be located in close proximity to the overlying top.

It will be noted that the burners 32 are
50 wholly under the forward section of the top 27, leaving a larger unbroken section in the rear. Thus, looking at Fig. 8, it will be seen that there is a greater area of smooth surface back of the burners than there is in
55 front, whether or not the width of space occupied by these burners, or the lids and rings thereabove, be reckoned in the measurement. The top plate extends far enough out in the rear to carry the superstructure
60 23, previously mentioned, and a vertically disposed pipe or conduit 43, communicating with an outlet 44, to the heat-generating chamber 33, in which the burners are mounted.

65 The unbroken rear section of the top plate

above referred to lies over and extends beyond the back portion of the chamber 33, being positioned to be heated by the products of combustion passing therethrough
70 from the burners to the said outlet and conduit. The top is thus heated at the rear by part of the fuel that would otherwise go to waste, and the superstructure and shelving also partake in the heating. In addition, therefore, to the surface directly acted upon
75 by the burners or fires, the range may be said to possess a secondary calorific surface, of ample extent as well as commodious, which is available both for slow cooking and warming up or keeping hot such food
80 as may have already been cooked.

It is understood that the said pipe 43 may be of any length that will answer for purposes of draught and ventilation. As
85 clearly seen in Fig. 2, this pipe rises back of the range, in the central plane thereof, and is arranged to carry away the fumes and vapors arising from the products of combustion, as they pass through the chamber 33 and reach the outlet 44. The pipe is
90 steadied by the superstructure 23, against which it bears at the back, and by the shelf 24, partly encircling it from the front. The opposite extremities of the latter are likewise firmly held in band-iron brackets 46,
95 projecting forwardly from the superstructure. This shelf also is placed at a convenient height, in conformity with the other heating appurtenances of the range, which is consistently made according to well calculated
100 measurements in all its parts and is thereby rendered particularly fit to work at with comfort.

There are no main burners located outside of the forward section of the range, as
105 is done in different stove constructions, wherein the burners are usually paired, that is, placed two or three in line at the front and an equal number in the back, or similarly arranged at opposite ends of the stove.
110 In the present invention, the main burners are mounted along a single line or in one row at the front, or outer end, remote from the outlet provided for the products of combustion. No other burner but the tiny one
115 beneath the percolator, before mentioned, is allowed in the intervening space between the said main burners and the said outlet, so that there can be no interference between forward and intermediate fires, as happens
120 in the different stoves aforesaid. With the burners positioned as herein described and shown, the danger formerly experienced of the fumes from one burner extinguishing the flame of another is avoided, and the casualties likely to result therefrom are also
125 obviated. As to the little burner for the percolator, it is too small in size to affect, in any material measure, the efficiency of the main burners, and its position in the
130

rear section of the heat-generating chamber is such as to save it from being itself affected by the larger burners in the forward section. In this connection, it is pointed out
 5 that the heat generating chamber comprises a single compartment wherein the several burners are mounted with no intervening obstruction. This arrangement is very advantageous in that the heat from each
 10 burner is not confined alone to any particular portion of the overlying top but will be distributed throughout the whole surface of the top and thus utilized to the best advantage.

15 Burners of elliptical or elongated form, as 48 and 49, are preferably used in the duplex oven, one for each of the broiler and baking sections 28 and 29. See Figs. 2, 3 and 9. Both the burner 48 and the burner
 20 49 are placed in an inverted position, the former in the upper part of the oven beneath a horizontal flue 50, and the latter below a plate 51, at the bottom of the oven. From the broiler section the products of
 25 combustion immediately ascend into the flue 50, through a series of openings, as 52, and thence are drawn up into the outlet 44 and discharge conduit 43. The products from the baking section follow the same course
 30 outward after passing through the body of the oven, which they enter through openings, as 53, provided in the lower plate 51, that overlies the burner 49. The secondary air to support combustion in the duplex
 35 oven is admitted through openings 54, in a bottom plate 55, pertaining to the base of the range, and also by the oven door 30, which necessarily is opened at more or less frequent intervals. The base or bottom
 40 plate is raised a considerable distance from the floor on which the range is set up, as previously described.

Two series of ledges 57 and 58 are provided on each side of the duplex oven, as
 45 end supports to grids and shelves (not shown) such as are ordinarily used in broiling and baking, respectively. These ledges afford means for holding the food to be broiled or baked at varying distances from
 50 either of the burners 48 and 49, as will be perceived on reference to Figs. 2 and 9. It will be observed that, by tiering the series of ledges intermediately of the burners within superposed heat-generating compartments
 55 as illustrated, a duplex oven of ample capacity is evolved, co-acting with the similarly capacious smooth-surfaced top above in producing a range well adapted to fill all practical requirements, though it may be
 60 made of reduced size, which is an invaluable feature for certain installations.

A different disposition of the ovens is adopted for ranges of larger dimensions, as exemplified in Figs. 4 and 6. Thus, there
 65 are two ovens placed side by side in the

range represented at Fig. 4, the doors of which are respectively designated by the reference characters 30^a and 30^b. In the range shown in Fig. 6, a broiler and a bake
 70 oven are provided instead, both closed by two doors 30^c and 30^d, and also located one beside the other. When two ovens are used as in Fig. 4, one of them can as well be made duplex, that is, fitted with a broiler
 75 burner in its upper portion, and a baking burner in the lower portion, thus giving two ovens in one small space.

As in the form of range first hereinabove described, the larger-sized forms illustrated
 in Figs. 4 to 7, inclusive, have their respective ovens situated directly under a closed
 80 smooth-surfaced top, as 27, in each case, the same carrying a super-structure 23, shelving 24, and outlet-pipe 43, all as before mentioned. But, on account of its wider surface, each one of the large ranges is equipped
 85 with a set of three top burners 32^a, instead of the two appertaining to the smaller range. The three burners are located in front, as in the other case, and also aligned, preferably
 90 A small burner 37, of the type before specified, may be furnished in addition to either set of three burners, and placed conveniently to one side of the middle burner in the set a short distance behind
 95 the same, for instance, on the right-hand side, as shown in the four views last named.

One of the varied forms of range embodying the present invention, namely, that
 represented by Figs. 6 and 7, includes a
 100 second row of openings in the closed top 27, which are similar to the front openings 39, previously referred to, and are likewise covered by means of removable rings 60, and lids 61. The two rows of openings are made
 105 parallel, as will be noted, but there are no burners used in connection with the rear openings, the same being provided for the sole purpose of receiving utensils which it may be desired to keep at a hotter tempera-
 110 ture than is obtained at the surface of the rear section of the range, that is, the section heated by the products of combustion on their passage from the main burners 32, in front, to the outlet 44, in the rear.
 115

A second row of openings can also be utilized with equal advantage in a range of small size, as indicated at 39^a, in Figs. 10 and 11. The form of range exemplified in
 120 these two views is substantially the same as was before described with reference to Figs. 1, 2, 8 and 9, and for that reason the upper part thereof only is shown. The essential parts of the invention are identical
 125 in both sets of figures, and are designated by like numerals of reference.

A similar equipment of gas-fittings is provided for the several forms of range
 herein disclosed, such as air-mixers 64, plug valves 65, supply-pipes 66, etc., all
 130

so arranged as to insure individual control over each one of the burners employed. An alternating valve control mechanism, designated as a whole by the numeral 67, in Figs. 1, 2, 4 and 8, is also used where there are superposed burners in the same oven, so that they cannot be lighted simultaneously. This mechanism is of known construction, not claimed herein, and therefore requires no specific description.

From the forward portion of the top 27, in the various forms of range shown, is suspended a hinged casting or plate 70, which partially closes the secondary air opening 36, hereinbefore mentioned. This plate is held normally in a depending position, as shown, by means of hooks 71, passing through slots 72, in the ends thereof, and fastened to the top, as at 73, on the underside. Its lower edge is formed with notches 74, at appropriate intervals, to accommodate the air-mixers leading to the divers burners, and further is spaced up from the floor or bottom of the heat-generating chamber 33, so as to leave the opening 36 unobstructed for substantially the full width of the chamber. The latter may be lined with fire-brick, or merely covered at the bottom by the enamelled pan 35, to which reference was made previously. As will be noted, the plate 70 easily swings backward on its hinges or suspending hooks to permit the removal of the top burners, that the same may be cleaned, as also the chamber in which they are mounted.

It will further be observed that the opening 36 aforesaid allows an abundant supply of secondary air to flow into the heat-generating chamber 33, inasmuch as the opening exceeds in width the length of the line of burners, extending as it does beyond them on both sides. The air enters below the burners and is drawn into the chamber rearwardly and upwardly through the agency of the hot products of combustion passing to the outlet-pipe. It both stimulates the combustion and assists in carrying away the inert gases through the outlet. Moreover, as it ascends into the pipe, it meets the similar air-currents and combustion products arising from the closed ovens underneath, and co-operates therewith in ventilating the range in its entirety.

The arrangement of the air inlet opening 36 below the level of the burners is further advantageous in that in this way, the secondary air is supplied solely to the bases of the flames, whereby the greatest speed of combustion or flame propagation is obtained. In addition, by such arrangement, the flames are so reduced in length that the burners may be located close up to the overlying top and thus enabled to exert their maximum heating effect.

The outlet 44 is divided by a partition 77,

forming separate passages therein which serve to keep apart forward and rearward, respectively, the burnt gases or vapors escaping from the heat-generating chamber and any of the ovens underlying the same. The partition, as seen in Figs. 2 and 10, reaches into the mouth of the outlet within the base of the conduit 43, so that the vapors or spent gases from the different levels of the range do not mix until they are well up in the conduit, and therefore no back draught from one part of the range to another can possibly originate in the outlet, irrespective of the presence or absence of a second row of openings in the top surface. The normal courses of the products of combustion, hot air currents, fumes and vapors, through the upper and lower parts of the range, are indicated by arrows in the two last-named figures.

At the front edge of the top 27 is a downwardly-turned flange 79, located forwardly of the hooks 71, from which the narrow door or casting 70 is suspended. The flange not only covers the means of suspension for the door, but co-acts with the latter in protecting the operator from the heat generated by the burners which they conjointly repel and turn toward the rear of the range. They further act together as a shield to the plug-valves, which are thereby kept cool, that is, at a temperature permitting them to be readily manipulated.

An igniter 81, capable of lighting any one or all of the top burners that may be open, is provided for ranges of both the large and small sizes, as illustrated in Figs. 4, 5, 6, 7, 10 and 11. This igniting device includes a head 82, placed centrally in the chamber 33, and connected by a branch 83, to the manifold or gas-supply pipe 66. The flow of gas through the branch 83 is normally restricted by a valve put under control of a spring-pressed button 84, but it is sufficient to feed a small flame burning interiorly of the head 82, which has a number of lateral apertures, as 85, directed toward the several burners in the said chamber. By depressing the button 84, the valved passage through the branch pipe 83 is instantly freed and the gas allowed to flow into the head 82 at the usual pressure, with the result that jets of flame issue out of the apertures 85 and operate to light such of the top burners as may be open at the time.

A pilot-light is preferably employed in connection with the lowermost burner or burners of the range, pertaining to the duplex oven, as illustrated in Fig. 2. As before noted, this burner is designated by the numeral 49 in the latter-named view, and also in Fig. 3, where it appears in plan. According to the present invention, the burner 49 carries a supplementary ignition tube 88, that leads a flame directly to it, whenever it

is to be lighted, whereas in former constructions the custom was simply to convey the flame in proximity to the burner, depending for its lighting on the more or less tardy ignition of the gas issuing therefrom and filling the gap between the same and the pilot-light. This caused annoying explosions and produced foul odors that permeated the air in and about the range. As shown, the burner 49 has a nipple 89, projecting upwardly and forwardly therefrom at an angle toward the front of the range. This nipple fits in a socket 90, formed at the lower end of the ignition tube 88, which is held thereby in an upwardly inclined position under the bottom plate 51 of the duplex oven. At its upper end, the tube 88 is bent downwardly to form a hook or head 91, by means of which it is confined between laterally disposed flanges, as 92, extending inwardly from the plate of the range, in front. The burner 49 is surrounded by lines of perforations 93, and the ignition tube 88 has leading toward them a straight line of similar perforations 94. The latter are brought up, at the forward end, close to one of the openings 53, in the oven bottom plate 51, hereinbefore mentioned. Now, as the gas is turned on, it fills both the burner and the ignition tube, issuing in jets through their respective perforations, so that upon placing a lighted match in the opening 53, the gas is ignited at once along the perforated sides of both the tube and the burner. The lighting of the burner is instantaneous and no explosion takes place.

The invention in its broader aspects is not limited to the precise constructions shown and described, nor to any particular construction by which the same may be carried into effect, as many changes may be made in the details without departing from the main principles of the invention and without sacrificing its chief advantages.

I claim:

1. A gas range including in combination, a heat generating chamber, a closed top covering said chamber, a burner mounted exclusively in the forward part of the chamber, an inlet arranged to supply secondary air solely to the bases of the burner flames, and an outlet for the products of combustion located at a point distant from the burner.

2. A gas range including, in combination, a single heat generating chamber, a closed top covering said chamber, a plurality of burners mounted exclusively in the forward part of the chamber, an inlet arranged to supply secondary air to the several burners solely from beneath, and an outlet for the products of combustion located at a point distant from the burners.

3. A gas range including, in combination,

a single heat generating chamber provided at its front with an inlet for secondary air and at its rear with an outlet for the products of combustion, a closed top covering said chamber, and a plurality of burners mounted exclusively in the forward part of the chamber and disposed at a level above that of the air inlet.

4. A gas range including, in combination, a single heat generating chamber provided at its front with an inlet for secondary air and at its rear with an outlet for the products of combustion, a plurality of burners mounted exclusively in the forward part of said chamber and disposed at a level above that of the air inlet, and a closed top covering the heat generating chamber from front to rear, the said top being formed with openings arranged directly above the respective burners for the purpose described.

5. A gas range including, in combination, a single heat generating chamber provided at its front with an inlet for secondary air and at its rear with an outlet for the products of combustion, a plurality of burners mounted exclusively in the forward part of said chamber and disposed at a level above that of the air inlet, and a closed top covering the heat generating chamber from front to rear, the said top being formed with openings arranged directly above the respective burners and with further openings located between said burners and the outlet.

6. A gas range including, in combination, a single heat generating chamber provided at its front with an inlet for secondary air restricted to the lower part thereof and at its rear with an outlet for the products of combustion restricted to the upper part thereof, a plurality of burners mounted exclusively in the forward part of said chamber and disposed at a level intermediate the respective levels of the inlet and outlet, and a closed top covering the heat generating chamber from front to rear.

7. A gas range including, in combination, a single heat generating chamber provided at its front with an inlet for secondary air extending approximately the full width thereof and at its rear with a suitable outlet for the products of combustion, a plurality of burners mounted exclusively in the forward part of said chamber and disposed at a level above that of the air inlet, and a closed top covering the heat generating chamber from front to rear.

8. A gas range including, in combination, a single heat generating chamber, a closed top covering said chamber, a plurality of burners mounted exclusively in the forward part of the chamber and formed with orifices for directing the flames perpendicularly to the overlying top, an inlet arranged to supply secondary air solely to

the bases of the burner flames, and an outlet for the products of combustion located at the rear of the heat generating chamber.

5 9. A gas range including, in combination, a single heat generating chamber provided at its front with an inlet for secondary air and at its rear with an outlet for the products of combustion, an oven disposed below said chamber, a partition separating the
10 heat generating chamber and oven and formed with openings which discharge the products of combustion from said oven into the outlet of said chamber, a burner for the oven, and a plurality of burners for the heat
15 generating chamber, the latter burners be-

ing mounted exclusively in the forward part of said chamber and disposed at a level above that of its air inlet.

10. A gas range including, in combination, a heat generating chamber open at its front, a closed top covering said chamber, a burner mounted in the forward part of the chamber, and a plate closing the upper part of the front opening of said chamber and leaving the lower part thereof open to admit a supply of secondary air to the bases of the burner flames. 25

In testimony whereof, I have affixed my signature hereto.

HENRY W. O'DOWD.