June 16, 1936. E. V. COULSTON 2,044,154

COMBINATION COOKING RANGE. TABLE, AND CABINET

Original Filed Nov. 25, 1930 3 Sheets-Sheet 1

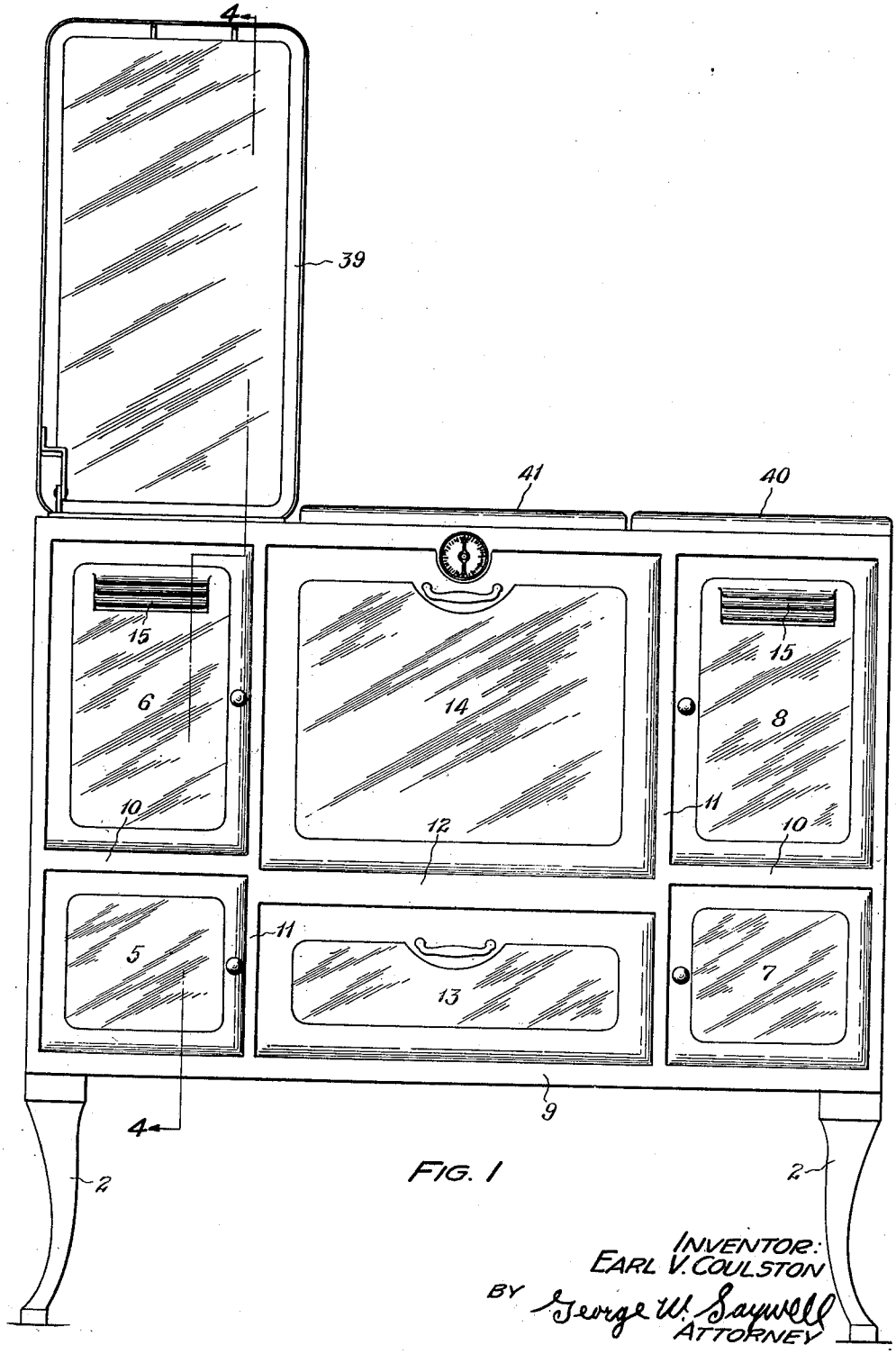


FIG. 1

INVENTOR:
EARL V. COULSTON
BY George W. Saywell
ATTORNEY

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Original Filed Nov. 25, 1930 3 Sheets-Sheet 2

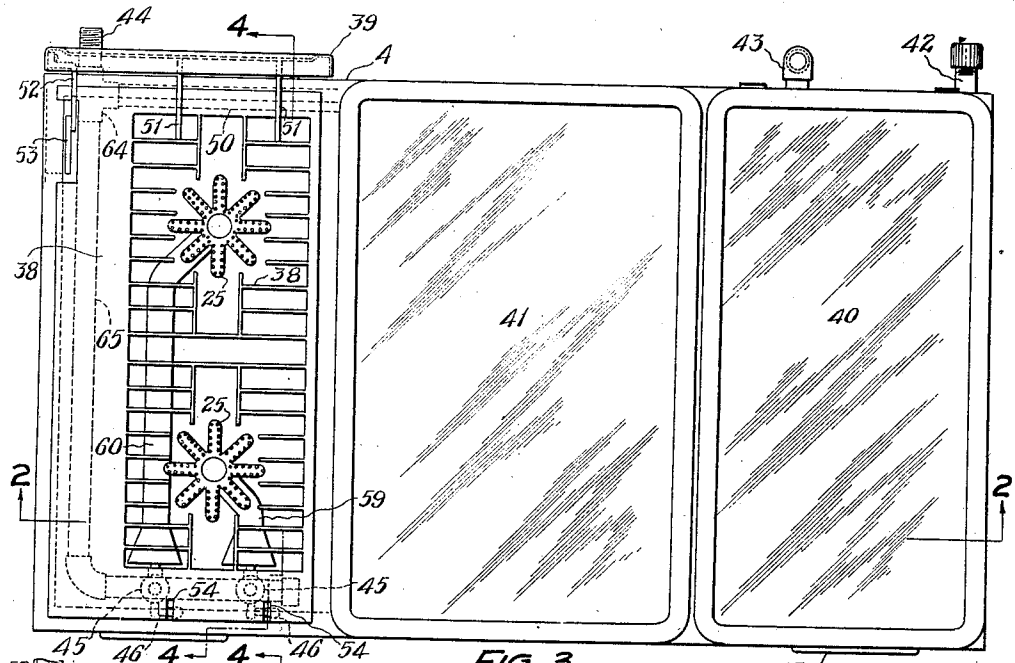


FIG. 3

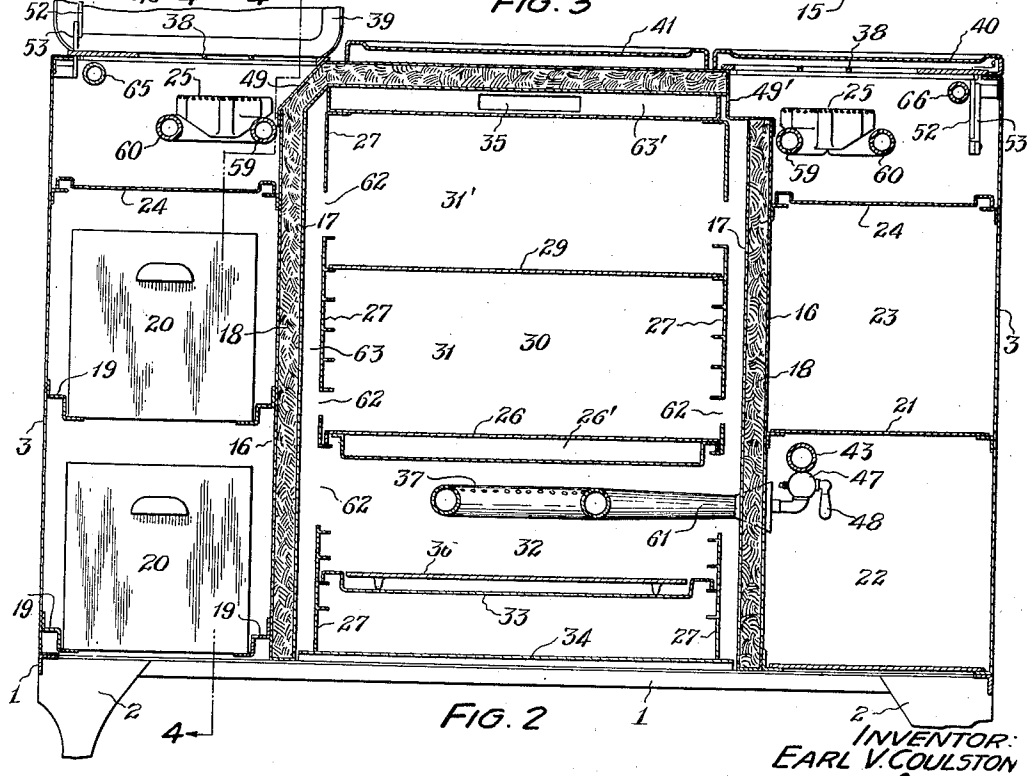


FIG. 2

INVENTOR:
EARL V. COULSTON
BY George W. Sayward
ATTORNEY

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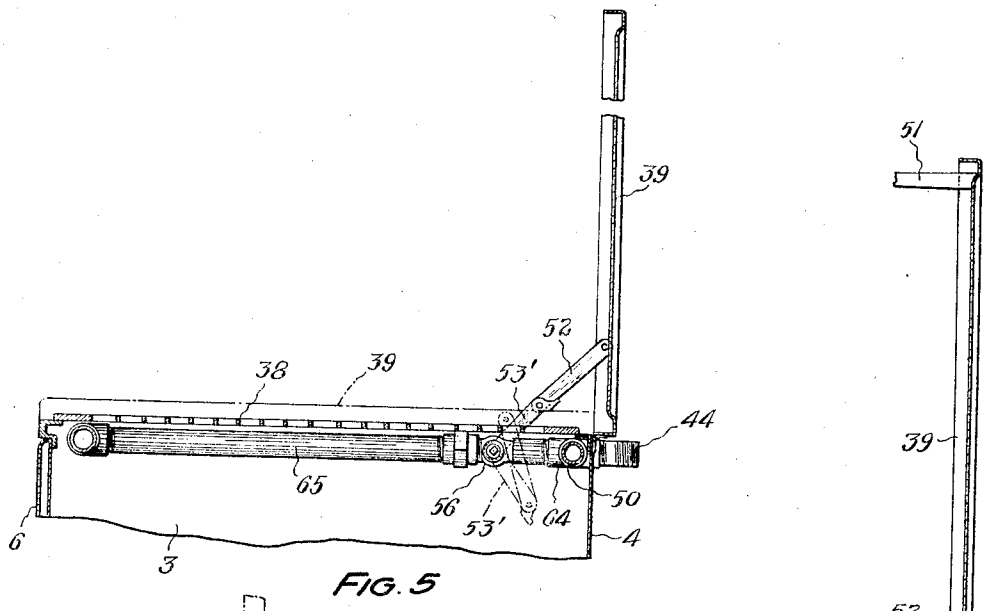


FIG. 5

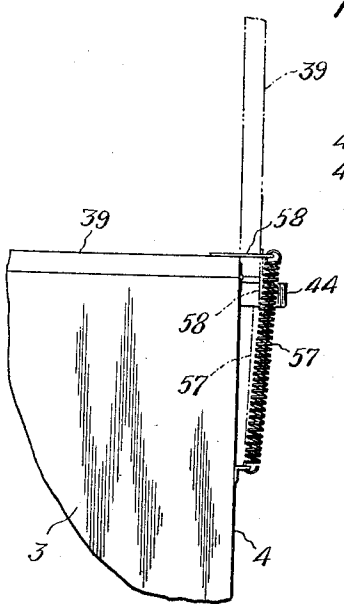


FIG. 6

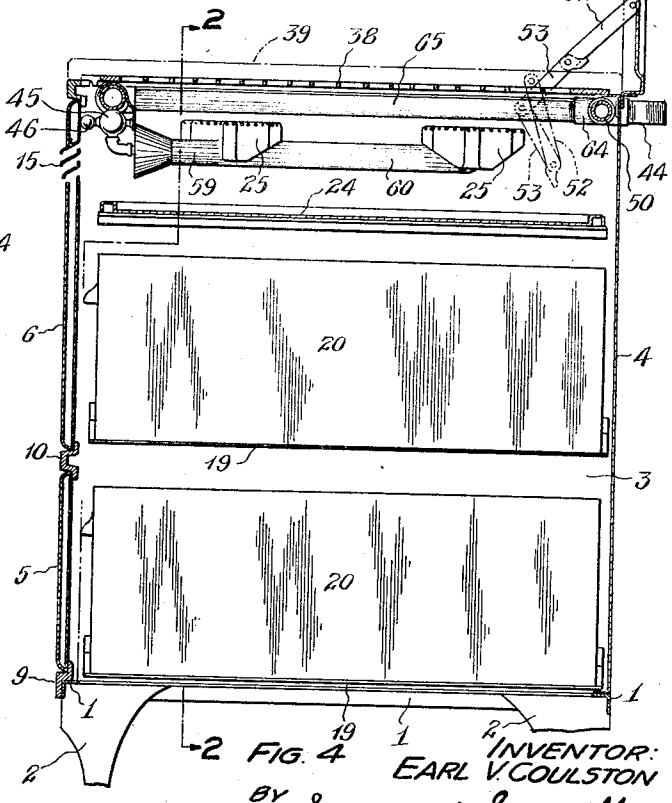


FIG. 4

INVENTOR:
EARL V. COULSTON
BY George W. Saywell
ATTORNEY

Patented June 16, 1936 2,044,154

UNITED STATES PATENT OFFICE

2,044,154

COMBINATION COOKING RANGE, TABLE, AND CABINET

Earl V. Coulston, Shaker Heights, Ohio, assignor to Crown Stove Works, Cicero, Ill., a corporation of Illinois

Application November 25, 1930, Serial No. 498,044
Renewed September 3, 1935

5 Claims. (Cl. 126—39)

My invention particularly relates to improvements in devices of the above character that will afford convenient and efficient cooking operations; provide a convenient working table top and ample material-storage space; occupy a minimum of space; and can be economically and safely utilized.

Taking up the above-mentioned improved structural features and advantages somewhat more in detail, my improved cooking range is designed to be a well-balanced and attractive piece of furniture which, when suitably finished, will add to the decorative features of the home far better than the present styles of one-sided or unbalanced designs. My improvements also eliminate dark and inconvenient corners found in many present designs of ranges, and hide from view any unsightly cooking spaces. The improved range also provides a convenient working table, even when the range is in operation, and further presents a working table of increased area when the range is not in operation. This working area when the range is in operation varies in size according to whether one or both of the cooking sides are being utilized. This working table top may be porcelain, enamelled, or otherwise suitably finished, and thus presents a sightly appearance whether or not the actual cooking tops may have become marked or discolored from cooking service. My improved range is of such a construction that the sides are so far removed and protected from heat as to permit the safe finishing of the same with inexpensive finishes; finishes, for instance, much less expensive than the vitreous enamel now so widely used. In my improved range all valves and pipes are hidden from view, thus enhancing its appearance as a piece of decorative furniture. The range is supplied with liberal drawer and storage compartments.

All of the above improvements are combined in a structure of unusually short length, thus particularly adapting it to the small size kitchens in modern dwellings. I have also provided improved safety features consisting in means for automatically locking certain hinged top parts in upright position when they are open, and in means for automatically turning off the heating medium when it is desired no longer to use the range for cooking purposes and the hinged tops are turned down to cover the cooking tops.

These improvements and others of a detailed character appear in the accompanying drawings and will be clearly apparent therefrom in combination with the following description.

The annexed drawings and the following description set forth in detail certain means embodying my invention, such disclosed means constituting, however, only a few of the various forms in which the principle of the invention may be embodied.

In said annexed drawings:

Figure 1 is a front elevation of my improved range, showing one of the hinged cover members in open upright position, this cover member being designed as a cover for one of the heating element sides of the range and also as a part of a working table top;

Figure 2 is a longitudinal vertical section, taken in the plane indicated by the line 2—2, Figure 3, some parts being broken away;

Figure 3 is a plan view of the improved range as it appears in Figure 1;

Figure 4 is a transverse vertical section, taken in the planes indicated by the line 4—4, Figure 2;

Figure 5 is a fragmentary transverse vertical section, showing a modified form of construction for automatically turning off the heating medium; and

Figure 6 is a fragmentary transverse vertical section, showing a modified form of means for automatically holding the hinged cover members in open upright position.

Referring to the annexed drawings, in which the same parts are indicated by the same respective numbers in the several views, my improved range consists of a rectangular skeleton base 1 of angle iron, or band iron, or other suitable materials, supported upon suitable legs 2. Upon this base 1 are erected vertical side members 3, a back plate 4, and a skeleton front frame consisting of an outer rectangular member 9, uprights 11, and cross-members 10 and 12, arranged to accommodate hinged side doors 5, 6, 7, and 8, and hinged center doors 13 and 14. The upper side doors 6 and 8 are provided with louvers 15. Spaced from the side walls 3 are spaced pairs of upright interior walls 16 and 17 which are respectively spaced to provide an air space, or this space may be filled with insulating material 18, such as indicated in Figure 2. These walls 16 and 17 are continued over the center top part of the range and, in fact, are in horizontal alignment with the cooking areas above the side portions of the range, within which areas are mounted the grid plates 38. It is evident that the walls 3 and 16—17 form two side chambers and a central chamber, and in my improved construction, these side

chambers are utilized as heating element and storage chambers, and the central chamber is utilized as an oven compartment and a broiler compartment. To effect the division of the side chambers, I provide upon one side of the range two pairs of spaced angular bars 19, one pair mounted upon the base ring 1, and one pair secured to the walls 3 and 16, which bars 19 form supports for drawers 20 immediately within the front door 5 and the lower part of the front door 6. Above the top drawer 20 I mount a partition 24 which defines a heating element chamber between said partition 24 and the cooking grid 38. Such an upper heating element chamber is provided upon both sides of the range and these chambers are furnished with heating elements, shown for purposes of illustration in the accompanying drawings as gas burners 25, communicating respectively with heating medium branch conduits 59 and 60. Within the other side chamber I mount a partition 21, which defines a lower chamber 22 and an upper chamber 23, which can be utilized for miscellaneous storage and which are located adjacently within the lower side door 7 and the lower part of the upper side door 8.

Further interior walls 27 spaced from the walls 17 define an oven compartment 30 and a broiler compartment 32 bounded at the bottom by the plate 34, and these two compartments are separated by the horizontal partition 26 mounted upon the walls 27 and having an air chamber 26' between its upper and lower surfaces. The oven compartment 30 is further subdivided by an adjustable shelf 29 into upper and lower oven spaces, of which the lower is indicated by the number 31 and the upper by the number 31'. An adjustable base member 33 mounted upon the walls 27 in the broiler compartment 32 forms a support for a broiler grid plate 36, the broiler compartment 32 being provided with the burners 37 located above the grid 36 and connected to the heating medium branch conduit 61. Apertures 62 in the interior walls 27 provide means for the passage of heat upwardly from the broiler burner 37 through the spaces 63 and into and through the oven compartment 30 and transversely of the range by the passage 63' above the oven space 31', and thence out through the opening 35 in the back wall 4.

Hinged to the back wall 4 are side cover members 39 and 40 for the side burner compartments. There is also a cover member 41 for the oven compartment, these covers 39, 40, and 41 being independent and somewhat longitudinally spaced, but being positioned in horizontal alignment and forming, in effect, when they are all closed down, a continuous working table top. The central cover member 41 may or may not be hinged, and the side cover members 39 and 40 may be removable from the actual cooking surfaces by means other than hinges but, for purpose of illustration and as showing my improvements in the preferred form, I have shown the side cover members 39 and 40 as being hinged and the central cover member 41 as being permanently fixed. The side cover members, of course, are raised so as to expose the burners 25 and grid plates 38 when it is desired to use either or both of the side burners, the central cover member 41, together with one of the side covers, if both side burners are not in use, providing a working table top. This working table top is at the most convenient height for the operator and all three cover members from which may be formed parts of the top, are substantially in horizontal alignment. In order that the side covers 39 and 40 may assuredly stay in upright position, when they are raised, I provide links 52 and 53 for each cover member, pivoted respectively at one of their ends to the cover, Figure 4, and the range side 3, these links 52 and 53 being pivoted to each other at their inner ends and so connected as to open downwardly, when the cover is lowered, as illustrated by broken lines in Figure 4. These links 52 and 53 are formed with a slight bias upwardly at their joint so as to insure the holding of the cover member in an upright position by the links, when the cover has been fully raised to its open position.

In Figure 6 I show a modified form of construction for insuring the holding of the cover 39 in open position, which comprises a spring 57 secured at one end to the back wall 4 and secured at the other end to a plate 58 upon the cover 39, the spring being arranged to be under considerable tension when the cover member 39 is closed.

The heating medium for my improved cooking range may be either electric or gas, and, as above stated, I have illustrated the fixtures therefor in the accompanying drawings as those usual to the use of gas. Two inlet conducting pipes 42 and 44 are provided, one adjacent each side of the range and intersecting the back wall 4. In Figure 3 I have shown the pipe 42 as being capped, so that it is assumed that the pipe 44 is the one which is being used and which receives the gas from the gas main. This pipe 44 opens into a rear longitudinal header 50 mounted at its two ends in T's of which one is shown and marked "64", the pipe 42 communicating with the header 50 (not shown) upon the opposite side of the range. Communicating with these two headers are pipes 65 and 66, which communicate respectively with the branches 59 and 60 which lead to the side burners 25. Communicating with the header 50 intermediate its ends is a pipe 43 which passes outwardly through the back wall 4 and then downwardly and in through said back wall and forwardly of the range in a corner of the storage compartment 22 where it communicates with the branch conduit 61 which communicates with the broiler burner 37. The side burner conduits 59 and 60 are provided with valves 45 and the broiler burner conduit with the valve 47, as plainly shown in Figures 2 and 3.

In order to insure the positive turning off of the heating medium, when the side top members 39 and 40 are in closed position and the side burners are not being used, I provide means connected to the top members 39 and 40 for insuring the turning off of the heating medium by the lowering of said members. These means comprise a pair of spaced fingers 51 secured to the members 39 and 40 adjacently the top thereof, as seen in the open position of the top member 39 in Figure 4, which fingers 51 are respectively in vertical planes intersecting the handles 46 of the valves 45. Thus, when the members 39 and 40 are closed down, these fingers 51 intersect the handles 46 of the valves 45 and turn these handles to close the valves, the fingers 51 passing through slots 54 in the grid plates 38. In this form of construction, the valve 45 must be positively opened when the top members 39 and 40 are raised and it is desired again to use the burners.

In a modified form of construction shown in Figure 5, I show other means for automatically controlling the gas pipes. These means automatically turn on the gas when the top members

39 and 40 are raised, and turn it off when the members 39 and 40 are lowered. These means comprise master valves 56 in the pipes 65 and 66 having square shank portions engaged by links 53'. Thus the raising of the link 53' to the full line position shown in Figure 5 will open the valve 56, and the lowering of the cover 39 and the turning of the link 53' to the position shown in broken lines in said figure will automatically close the valve 56.

It will be noted in Figure 2 that the interior walls 16—17 do not extend vertically upward throughout their entire height but are inclined somewhat inwardly. In fact, I show two forms of this wall structure, one, designated by the number "49", upon the left side of Figure 2 and another, designated by the number 49', upon the right side of Figure 2. The purpose is the same for both forms of structure and I have shown the two forms in order to illustrate two of the various expedients for accomplishing the purpose. The purpose is to permit the positioning of the burners 25 closely adjacent the interior walls 16 which in turn permits a substantial reduction in the length of the range, an advantage of ever increasing importance in modern kitchens. Burners with open grids above them for passage of burnt products require a certain minimum area of open passageway, roughly about twice the diameter of the burner, as has been determined by laboratory standards and general practice; and of course the burner is centered with relation to this passageway. By means of the structures 49 or 49' I move the position of the open grid toward the center of the range a distance equal to half the burner diameter, the burner 25 lying in close proximity to the wall 16 adjacent the bottom of the wall section 49 or 49'. Thus the burner is centered with relation to the open grid space, which latter is in no way changed or restricted. Obviously the side walls 3 are drawn in the same distance and as this shortening of the range length occurs at both sides of the range, the total length of the same is thereby much reduced; in actual practice the reduction is from five to six inches.

What I claim is:

1. A cooking range comprising a casing structure having side, front and back walls, interior walls forming a central oven chamber and side chambers, the latter chambers containing heating elements, said interior walls being beveled toward a common center upwardly from said heating elements, a top for the oven chamber forming a work table, and cooking grids over the side chambers in substantial alignment with said top.

2. A cooking range comprising a casing structure having side, front and back walls, interior walls forming a central oven chamber and side chambers, the latter chambers containing heating elements, said interior walls being offset inwardly and upwardly from said heating elements, a fixed top for the oven chamber forming a central work table and movable work table extension tops for the side chambers in substantially horizontal alignment with the center table.

3. A cooking range comprising a casing structure having side, front and back walls, interior walls forming a central oven chamber and side heating chambers, said interior walls including spaced insulated vertical walls and an insulated horizontal wall connecting said vertical walls, heating elements in the side chambers adjacent said vertical walls, grids above said heating elements and horizontally aligned with said horizontal wall, said vertical walls being inwardly beveled from a point adjacent the heating elements up to the ends of said horizontal wall, and independent horizontally-aligned top members for said chambers, the top members for the heating chambers being movable, and the oven chamber top being fixed.

4. A cooking range comprising a casing structure having side, front and back walls, an interior wall forming with the aforementioned walls a pair of cooking chambers, a heating element in one of said chambers, said interior wall being offset away from and upwardly of said heating element, a top for the other chamber forming a work table, and a movable top for the first-mentioned chamber adapted to form a work table extension substantially in horizontal alignment with said work table.

5. A cooking range comprising a casing structure having side, front, back and interior walls forming heating chambers, a top structure for said casing structure including a hinged cover for one of said heating chambers, said cover being movable to open and closed positions, a stationary heating element in said one heating chamber, a control member operative to turn on or shut off the flow of a heating medium to said heating element, and means actuating said control member in opposite directions upon movement of said cover to open and closed positions respectively, said means also serving to hold said cover in open position.

EARL V. COULSTON.