

Jan. 6, 1942.

B. W. TULLIS

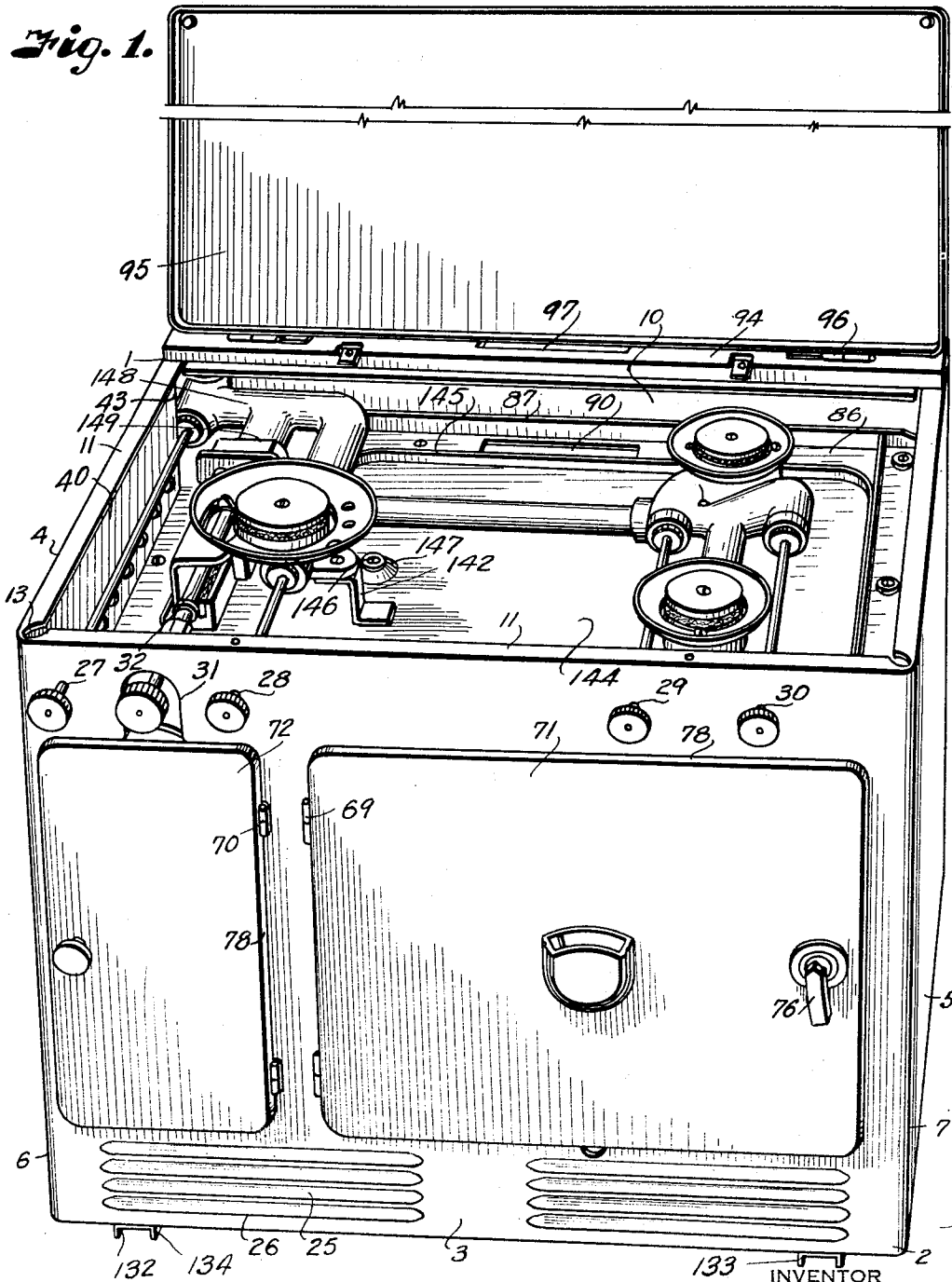
2,269,349

COOKING RANGE

Filed Jan. 12, 1940

4 Sheets-Sheet 1

*Fig. 1.*



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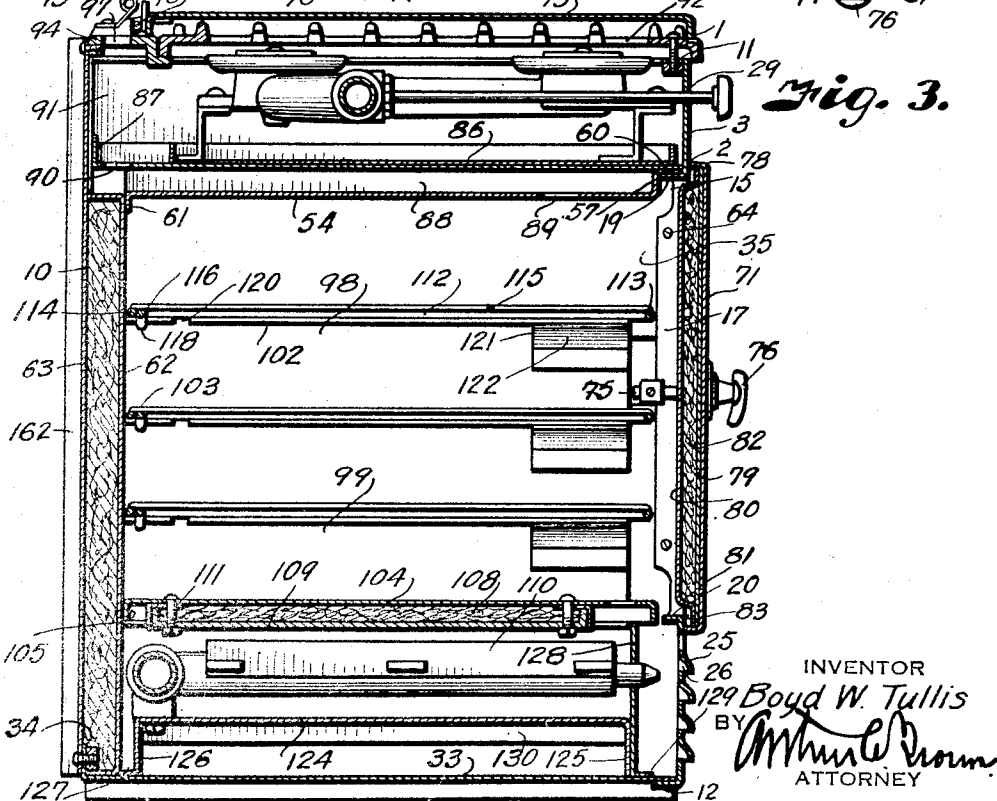
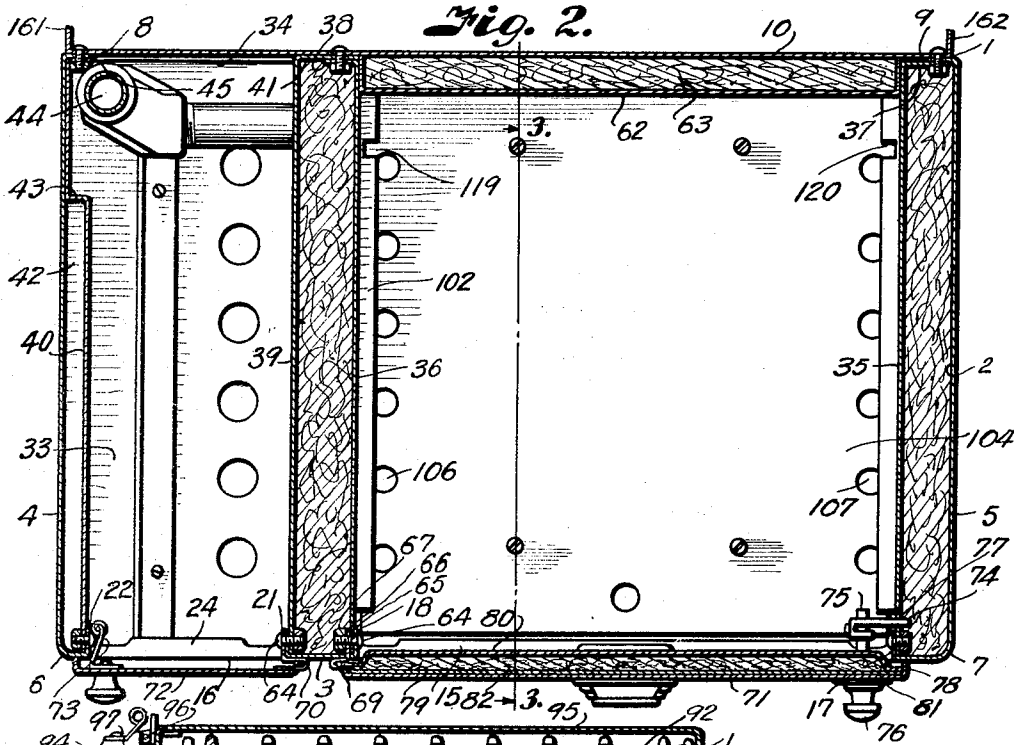
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COOKING RANGE

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4 Sheets-Sheet 2



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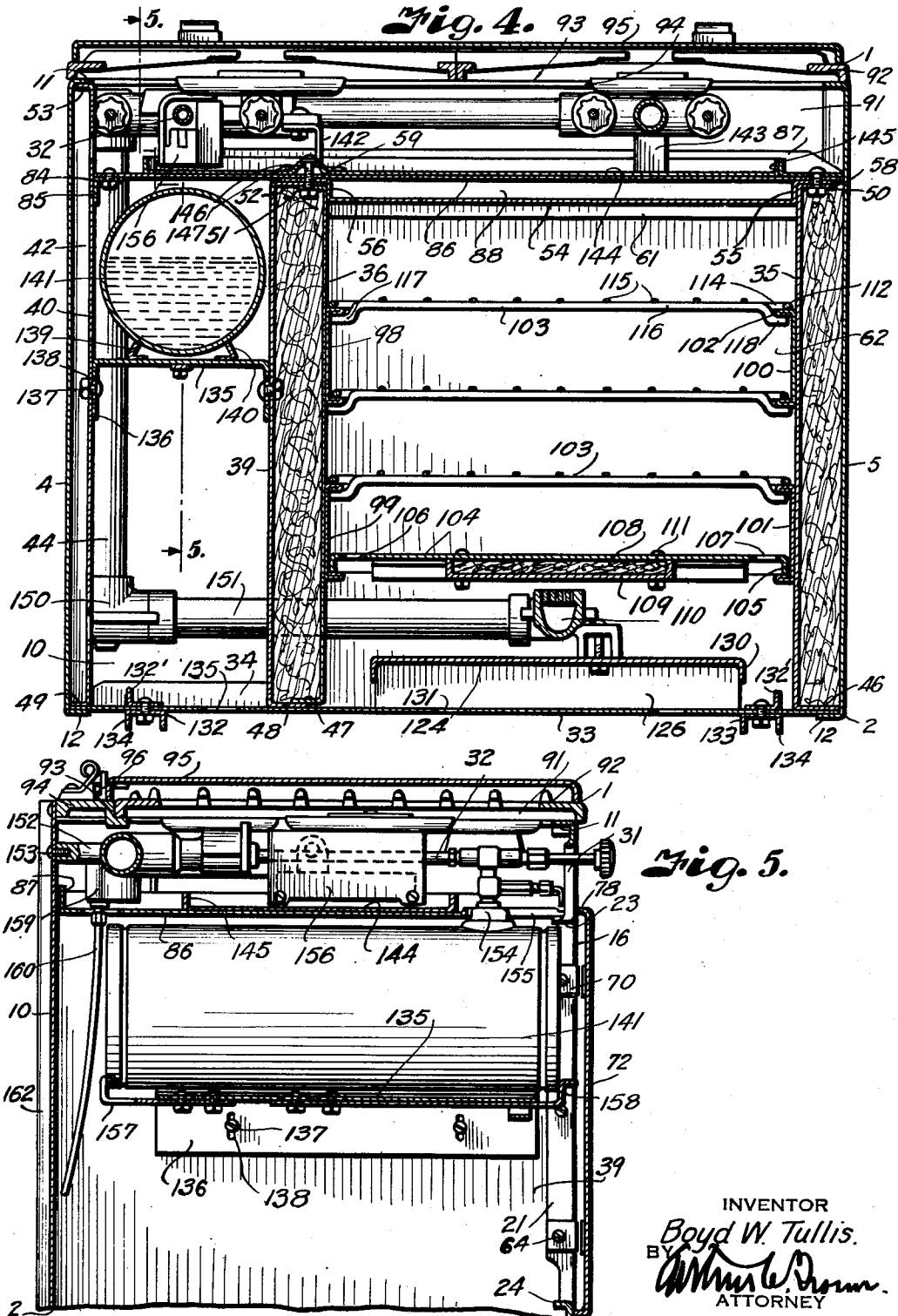
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COOKING RANGE

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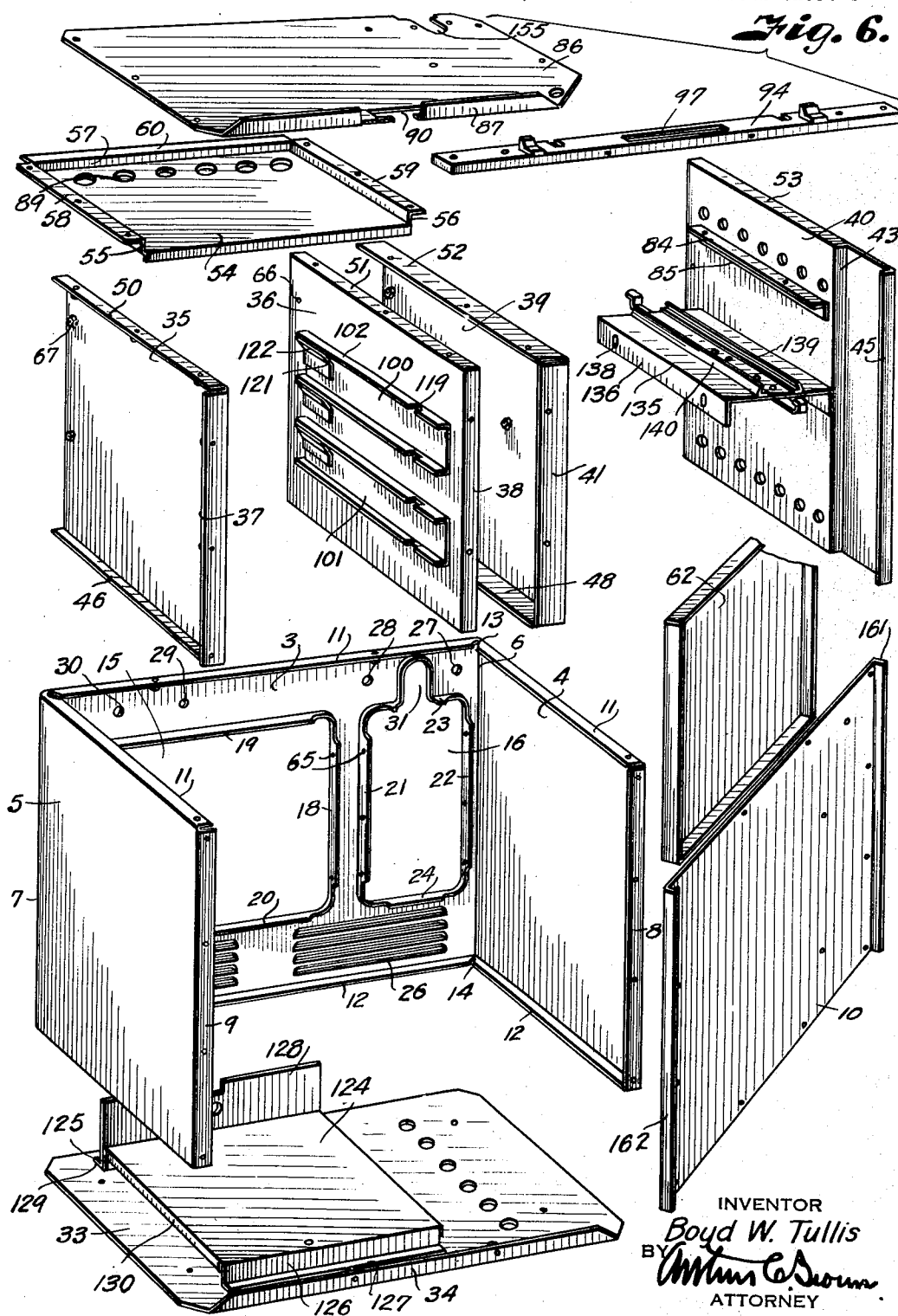
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COOKING RANGE

Filed Jan. 12, 1940

4 Sheets--Sheet 4

*Fig. 6.*



## UNITED STATES PATENT OFFICE

2,269,349

## COOKING RANGE

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Application January 12, 1940, Serial No. 313,563

18 Claims. (Cl. 126—44)

This invention relates to cooking ranges particularly adapted for installation within confined spaces such as automobile trailers, boat galleys, small cabins, and like compartments where space is limited. For example, in automobile trailers the space allotted for a cooking range is usually over the wheel housings and is so limited and closely confined that it is impossible to install conventional cooking ranges having sufficiently large oven and cooking top to provide the necessary baking and cooking capacities, especially without producing fire hazards and an inconvenient working level of the cooking top. These difficulties are further aggravated for the reason that ranges of this character should be light in weight, of rigid construction, safe in operation, and preferably contain their own fuel supply and generating system.

It is, therefore, the principal objects of the present invention to provide a cooking range having the required cooking and baking capacities and which may be conveniently and safely installed in limited and closely confined space; to provide a strong, light weight sheet metal construction in which the usual frame structure is eliminated; to provide for circulation of air beneath and at the back of the range in co-operation with insulation to eliminate fire hazards and promote efficiency of operation; to provide a burner cover for the cooking top; and to provide a construction which assures positive circulation through the oven and ventilation from the top of the stove.

Another object of the invention is to provide a relatively inexpensive range construction that is readily assembled with minimum fastening devices which are not affected by vibration.

In accomplishing these and other objects of the invention, as hereinafter pointed out, I have provided improved details of structure, the preferred form of which is illustrated in the accompanying drawings, wherein:

Fig. 1 is a perspective view of a cooking range constructed in accordance with the present invention, the burner cover being shown in open position and the grates removed to better illustrate the top of the range structure.

Fig. 2 is a horizontal section through the range, particularly illustrating the sheet metal construction thereof.

Fig. 3 is a vertical section through the range on the line 3—3 of Fig. 2.

Fig. 4 is a section through the range taken at right angles to the section shown in Fig. 3.

Fig. 5 is a section similar to Fig. 3, but taken

through the fuel tank compartment on the line 5—5 of Fig. 4.

Fig. 6 is a detail perspective view of the sheet metal parts composing the range structure shown in disassembled spaced relation.

Referring more in detail to the drawings:

1 designates a range constructed in accordance with the present invention and which is especially designed for use in restricted spaces as above noted, and which includes a sheet metal casing 2 of substantially rectangular form and of a size to fit within an allotted space. The entire front 3 and sides 4 and 5 of the casing preferably consist of a single sheet of metal, bent on slightly rounding curves to form the front vertical corners 6 and 7 of the casting, the terminal edges of the sheet being flanged inwardly, as at 8 and 9, to form the rear vertical corners and attach a back sheet 10, later described.

The upper and lower edges of the sheet are also flanged inwardly, as indicated at 11 and 12, the flanges being notched, as at 13 and 14, to permit of the bends forming the corners 6 and 7. The front 3 is provided with substantially rectangular shaped door openings 15 and 16 having the marginal edges thereof flanged inwardly as at 17—18, 19—20, 21—22, 23—24 respectively, to frame the openings and cooperate with the flanges 11 and 12 in stiffening the front 3 and provide for attachment of interior structure. The front 3 is also provided below the openings with louvers 25 partially covering slotted air inlet openings 26 and the portions thereof above the door openings are provided with preferably horizontally aligned apertures 27, 28, 29 and 30 to pass the valve stems of the burner control valves later described. The upper edge of the opening 16 is notched through as at 31 to pass the generator unit 32 supplying fuel to the respective burners.

The door opening 15 provides access to the oven of the range and is therefore wider than the opening 16 which is only sufficiently wide to accommodate the fuel supply unit, as later described.

Fixed to the inturned flanges 12, preferably by welding, is a bottom sheet 33 covering the bottom of the range and having an upwardly flanged rear edge 34 cooperating with the flanges 8 and 9 to attach the back sheet 10. With the bottom sheet 33 secured to the inturned flanges of the front and sides 4 and 5, it retains the rectangular shape of the lower portion of the range. Fixed to the inturned flanges 17 and 18, at the sides of the opening 15, are partition or oven side

sheets 35 and 36 which extend parallel with the sides 4 and 5 in spaced relation therewith, and terminate in plane with the inner faces of the flanges 8 and 9 in lateral flanges 37 and 38, the flange 37 abutting against the inner face of the flange 9, as clearly shown in Fig. 2.

Likewise attached to the side flanges 21 and 22 of the opening 16 are partition sheets 39 and 40, the partition sheet 39 having a laterally turned flange 41 along its rear edge overlapping the flange 38 of the partition sheet 36. The sheet 40 extends in spaced parallel relation with the side 4 across the major portion of its width to provide an insulating and air circulating space 42 for the outer side of the tank compartment. The rear portion of the sheet, however, is offset in the direction of the side 4 as indicated at 43 to give additional room for an oven burner supply pipe 44, later described, and the terminal edge has a lateral flange 45 abutting against the inner face of the flange 8. The partition sheets just described also have lateral flanges 46, 47, 48 and 49 respectively extending along the lower edges thereof to engage the bottom sheet 33, the flanges 46 and 49 overlapping the inturned bottom flanges 12 of the sides 4 and 5 and the flanges 47 and 48 overlapping each other as clearly shown in Fig. 4.

The partition sheets 35, 36 and 39 extend in height to the upper edges of the openings 15 and 16, and they are also provided with lateral flanges 50, 51 and 52, with the flanges 51 and 52 overlapping as shown in Fig. 4. The sheet 40, however, extends the full height of the range and terminates in a lateral flange 53 engaging under the upper inturned flange 11 of the side 4. Inset between the sheets 35 and 36 is a pan-like lining sheet 54 having flanged sides 55—56 and a flanged front 57 which terminate in lateral flanges 58, 59 and 60 respectively, the flanges 58 and 59 resting upon the flanges 50 and 52, and the flange 60 upon the upper inturned flange 19 at the door opening 15. The rear edge of the sheet 54 terminates in a downwardly extending flange 61 which abuts the back oven liner sheet 62, which cooperates with the back sheet 10 in forming an insulating compartment 63.

The front edges of the sheets 35, 36, 39 and 40 may be secured to the flanges at the sides of the door openings in any suitable manner, but are here shown as being secured by fastening devices, such as bolts 64, having shanks extending through openings 65 in the flanges, through registering openings 66 in the partition sheets, and into threaded nuts 67 which are preferably secured to the partition sheets so that the fastening devices may be readily threaded thereinto. The fastening devices which secure the partition sheets 36 and 39 also constitute supports for attachment of door hinges 69 and 70 of doors 71 and 72 that close the respective openings, as shown in Fig. 1, the door 72 being secured by a spring latch 73 engageable over a head of one of the fastening devices attaching the front edge of the sheet 40. The other or oven door 71 is retained by a tongue 74 fixed on the inner end of a shaft 75 rotatably mounted in a door structure and operable by a handle 76 to engage in a slot 77 formed in the partition sheet 35, as best shown in Fig. 2. The doors 71 and 72 are also formed of sheet metal and have inwardly flanged marginal edges 78 arranged to overlap the side edges of the door openings. The oven door includes a body sheet 79 and a liner sheet 80 having offset marginal edges 81 welded to the

body sheet to form a space for containing an insulating material 82. The hinges 69 are attached to the body sheet and the assembly is retained in the outer or finish sheet by tongues 83 that are attached to the outer or finish sheet and bent over the flanges of the liner sheet.

Inset within the top of the range, and resting upon the flanges 58—59 of the sheet 54 and on an inturned leg 84 of an angle 85 that is attached to the partition sheet 40, is a horizontal, sheet-like partition member 86 constituting the bottom of a burner chamber. The front edge of the sheet 86 overlies the flange 60 and the rear edge extends to the plane of the back sheet and has an upwardly directed flange 87 abutting thereagainst. When this sheet is secured in position it cooperates with the bottom sheet in maintaining the cross-sectional shape of the range. This member also cooperates with the sheet 54 to provide an air space or passage 88 extending over the top of the oven, which space is connected with the oven chamber through a plurality of spaced vent apertures 89 that are formed in the front portion of the sheet 54. This space has an exhaust through a slot-like opening 90 at the rear edge of the horizontal partition member 86 to provide ventilation from the top of the oven into the burner chamber 91 which constitutes the space between the horizontal partition member 86 and grates 92.

The grates 92 constitute the cooking top of the range and have their outer side and front edges supported upon the inturned flanges 11, while their rear edges are supported on a depending flange 93 extending along the inner edge of a tie bar 94 to which a burner cover 95 is secured by hinge elements 96. The grates are retained in position by suitable fastening devices which are readily manipulated to permit removal thereof when it is desired to have access to the burner chamber. When the top cover is closed, the burner chamber is vented through a slot-like opening 97 in the bar 94.

Fixed within the oven chamber to the inner faces of the partition sheets 35 and 36 are substantially channel-shaped members 98—99 and 100—101, arranged with the flanges 102 thereof turned inwardly to constitute guide tracks for oven racks 103 and an oven bottom sheet 104, the oven bottom sheet 104 being supported on the lower flanges in substantial registry with the inturned flange 21 at the lower edge of the door opening. The oven bottom sheet 104 has the marginal edges flanged downwardly as at 105 to enhance the rigidity thereof and the side portions are provided with a series of vent openings 106 and 107 whereby air is admitted to the oven from the oven burner chamber by way of the louver openings 26. The oven bottom sheet 104 also carries an insulating material 108 that is retained by a plate 109 located directly over the oven burner 110 and secured in position by suitable fastening devices 111.

The racks 103 are of wire-like construction and have side bars 112 resting on the guide flanges and front and rear bars 113 and 114 carrying rods 115 therebetween. Fixed to the rods 115 adjacent the rear bar 114 of the racks is a cross bar 116 having offset ends 117 and 118 engaging under the respective guides 102 to retain the respective racks for sliding support to and from the oven. The offset ends 117 and 118 are admitted to the under sides of the guides 102 through gaps 119 and 120 that are formed therein, as best shown in Figs. 1, 2 and 6. Stops

121 are provided at the under sides of the guides at their forward ends in the form of angle-shaped braces 122, the rear ends of which are adapted to be engaged by the offset ends 117 and 118 to limit withdrawal of the racks.

The oven burner 110 is carried on a box-like support 124 of rectangular shape but is smaller in dimension than the oven. The front and rear sides of the support are provided with flanges 125 and 126, the flange 125 of which terminates in a foot 127 fixed to the bottom sheet 33. Fixed to the flange 125 is a vertical plate 128 which has a foot 129 similar to the foot on the flange 126 and carries the front of the oven burner. It also serves as a heat baffle for protecting the front finish of the stove. The side edges of the support 124 are flanged downwardly as at 130 to enhance the rigidity thereof and provide an air passageway thereunder for flow of air admitted through openings 131 (Fig. 6) in the bottom sheet into the oven.

Extending across the bottom of the range, and attached to the lower face of the bottom sheet 33, are spaced channels 132 and 133 having downwardly directed flanges 134 constituting feet for spacingly supporting the bottom of the range from direct engagement with the base on which the range may be mounted, and thereby providing passage of air necessary in supplying the oven and the burner chambers through the openings 131 and 26, the attachment points of the channels being reinforced by angles 132' extending across the inner face of the bottom sheet and which cooperate with the channels to clamp the bottom sheet therebetween as best shown in Fig. 4.

Extending across the space between the partition sheets 39 and 40, at a point spaced below the inwardly directed flange at the upper edge of the opening 16, is a sheet 135 cooperating with the upper portions of the sheets 39 and 40 to form a tank carrying compartment which is insulated from the burner chamber of the cooking top by the horizontal partition member 86 extending thereover. The sides of the sheet 135 have flanges 136 adjustably attached to the partition sheets by fastening devices 137 extending through slots 138 in the flanges 136 whereby the tank unit 141 carried therein is adjustably supported to bring the generator of the tank unit into alignment with the Bunsen or burner inlet. The rear edge of the support is spaced from the back sheet to provide an air passageway therebetween. Fixed to the upper face of the support are guide rails 139 and 140 for more accurately guiding the fuel tank 141 into position in the range.

It is thus obvious that the tank unit is supported within the casing with its attached generator properly aligned with the burner inlet and is removable therefrom as a unit for filling purposes similarly to the tank units disclosed in United States Letters Patents Nos. 1,637,554; 1,716,210; 1,716,213, and 2,128,171.

The burners in the burner compartment, as well as the oven burner and its connection with the generating system of the range, are covered in a separate application and specifically form no part of the present invention. However, they are briefly described in that the arrangement thereof forms a part in providing the desired cooking capacity of the range.

The burners for the cooking top are illustrated as three in number, and are supported by suitable brackets 142 and 143 carried in a

pan 144, the pan 144 being mounted upon the horizontal partition member 86 and provided with sides 145 to retain any liquids that may be spilled from the cooking utensils. The pan 144 is attached to the member 86 at points over the flanges of the partition sheets 36 and 38 by fastening devices 146 which extend through upwardly struck bosses 147 of the pan 144. The end of the pan which extends over the tank compartment acts as an additional insulating member associated with the casing for insulating the tank from the burner units.

The burners are supplied from a common manifold 148 connected with a common mixing chamber 149 located in position to receive the generating tube 32 that is carried by the fuel tank 141 and in operative position aids in supporting the tank unit in aligned position with the burner inlet. The manifold 148 connects with the pipe 44 which extends downwardly within the fuel tank compartment and terminates in an elbow 150 having connection with the burner 110 by a pipe 151 extending through suitable openings in the partition sheets 36 and 39. The burner manifold is further anchored within the burner chamber by means of a lug 152 that extends rearwardly therefrom and is secured to the rear sheet 10 by a fastening device 153.

The generating tube is connected with the tank by a collar-like fitting 154, having sliding engagement in a slot 155 of the partition member 86, which registers with the notch in the front wall so that when the tank is slid along its main supporting member, the collar will pass into the slot and center the generating tube with respect to the mixing chamber.

The burner assembly also includes a sub-flame burner 156 that is located below the generating tube. The fuel tank is locked in operative position by means of an adjustable hook-like stop 157 engaging the rear end of the tank and an adjustable, spring-pressed latch 158 engaging the front end of the tank to properly locate the tank and generating tube as best shown in Fig. 5. The burner manifold may be provided with a sump 159 whereby excess liquid may be drained from the range through a pipe connection 160.

In order to space the oven from a wall against which it may be placed, the back sheet 10 preferably has its ends flanged outwardly as at 161 and 162 to assure an air passageway therebetween. These flanges also reinforce the sheet and assure tight joints at the edges thereof.

In assembling the range, the bottom sheet 33 including the burner support 124 attached thereto is welded to the lower turned flanges 12 of the front 3 and side walls 4 and 5. The partition sheets 35, 36, 39 and 40 are then inserted between the side walls and secured to the flanges 17, 18, 21 and 22 at the sides of the door openings 15 and 16. The lining sheet 54 forming the top of the oven is then slid into position so that the flanges 58 and 59 thereof are supported on the flanges 50 and 51 of the partition sheets 35 and 36 which form the sides of the oven. The inset partition member 86 may then be applied and secured in position by fastening devices extending through the respective overlapping flanges of the lining sheet and the partition sheets 35, 36 and 40, and the flange 84 of the angle 85, so that the horizontal partition member cooperates with the bottom in maintaining the rectangular shape of the casing. The sheet 135 forming the bottom of the tank compartment is inserted between the walls 39 and 40 and se-

cured by the fastening devices 137 after the adjustment as to height has been made. The tie bar 94 is applied to the upper flanges of the side walls. The upper burner unit carrying the pipe 44 and fitting 150 are assembled on the pan 144 and the assembled unit is inserted into the burner chamber of the cooking top through the open back of the casing, after which the oven burner 110 is connected with the upper burner unit by inserting the pipe 151. Suitable insulation may be inserted in the spaces between the side wall 5 and partition sheet 35, and the partition sheets 36 and 39 respectively. The oven back liner sheet 62 is then inserted between the partition sheets 35 and 36 so that it comes into abutting engagement with the ends of the guide tracks, after which a sheet of insulating material is superposed thereagainst and the back sheet 10 is attached by fastening devices extending through openings therein, through registering openings in the flanges and into threaded nuts secured to the flanges, after which the grids are secured in position on the upper flanges 11 and the burner cover 95 may then be applied to the tie bar, completing the assembly. Adjustment of the sheet 135, stop 157 and latch 158 may be necessary to properly locate the tip of the generator tube with its Bunsen. This, however, is easily effected by the slotted connections as shown in Fig. 5.

From the foregoing it is obvious that I have provided a range construction wherein the casing is completely formed of sheet metal, the parts of which, when connected, provide an extremely rigid construction without the use of interior frames, bracing, and the like, thereby providing a light weight, rigid construction. Elimination of frames, bracing and the like also provides for larger oven space and provides a cooking top which includes the entire top of the casing. It is also obvious that I have provided for adequate ventilation through the oven and provided for circulation of air under and at the back of the range so as to avoid heating of the base or walls against which the range may be placed.

What I claim and desire to secure by Letters Patent is:

1. A range having connected front and side walls, said front wall having inwardly directed flanges forming the side edges of a door opening in said wall, a bottom sheet having connection with the side and front walls and cooperating therewith to form a box-like structure having an open back and top, partition sheets inserted through said open back and spaced apart by said intumed flanges to form sides of an oven chamber, means in the back opening for retaining the partition sheets in spaced relation and to form a back closure for the oven chamber, and an inset horizontal partition member supported on the partition sheets and constituting the bottom of a burner chamber in said range.

2. A range having front and side walls formed of a single sheet of metal having flanges at the top and bottom edges, said front wall having inwardly directed flanges forming the side edges of door openings in said wall, a bottom sheet supported upon said bottom flange and cooperating with the side and front walls to form a box-like structure open at the back, partition sheet engaging said intumed flanges at the sides of said door openings for forming sides of an oven and fuel tank chambers, removable means spacing the partition sheets and forming a back closure for the oven chamber, and an inset horizontal member supported upon and extending across

the partition sheets to close the space between the side walls and to form the bottom of a burner chamber and the top of said fuel tank chamber.

3. A range having front and side walls, said front wall having inwardly directed flanges forming the side edges of a door opening in said wall, a bottom sheet secured to the side and front walls and cooperating therewith to form a box-like structure having an open back, partition sheets engaging said intumed flanges and forming sides of an oven chamber, means in said open back for spacing the partition sheets and forming a back closure for the oven chamber, a liner sheet supported by the partition sheets, and a horizontal partition member supported by the partition sheets above said liner sheet and constituting the bottom of a burner chamber and cooperating with said liner to form a ventilating passage over the top of said oven, said horizontal partition member having a flue opening therein connecting the ventilating passage with the burner chamber.

4. A range having front and side walls, said front wall having inwardly directed flanges forming the side edges of a door opening in said wall, a bottom sheet secured to the side and front walls, partition sheets secured to said intumed flanges and forming sides of an oven chamber, a back sheet secured to the side walls and the partition sheets, a pan-like liner sheet having flanged edges supported on the upper edges of the partition sheets, a horizontal partition member supported by the partition sheets above said liner sheet and constituting the bottom of a burner chamber and cooperating with said liner to form an oven ventilating passage over the top of said oven having connection with the oven and burner chambers respectively, a grid supported on the front and side walls in covering relation with the burner chamber, a cover for the grid, a tie bar fixed to the side walls, and means hinging the cover to the tie bar.

5. A range having front and side walls provided with flanges extending inwardly along the upper and lower edges thereof, said front wall having a door opening, a back sheet secured to the side walls, a bottom sheet secured to the intumed flanges of the side and front walls, partition sheets secured to the front wall at the sides of the door opening and having flanges at the upper, lower, and rear edges with the lower and rear flanges abutting respectively against the bottom and back sheets, an inset horizontal partition member supported on the upper flanges of the partition sheets, and means securing said abutting flanges of the partition sheets to the back sheet.

6. A range having front and side walls provided with flanges extending inwardly along the upper and lower edges thereof, said front wall having a door opening provided with inwardly directed flanges extending along the side edges of said door opening, a back sheet secured to the side walls, a bottom sheet secured to the intumed flanges of the side and front walls, partition sheets secured to the intumed flanges at the sides of the door opening and having flanges at the upper, lower, and rear edges with the lower and rear flanges abutting respectively against the bottom and back sheets, an inset horizontal partition member supported on the upper flanges of the partition sheets, and means securing said abutting flanges of the partition sheets to the back sheet.

7. A range having front and side walls provided with flanges extending inwardly along the



upper and lower edges thereof, said front wall having a door opening and said side walls having intumed flanges at their rear edges, a bottom sheet secured to the intumed flanges of the side and front walls, partition sheets secured to the front wall at edges of the door opening and having lateral flanges on the upper, lower, and rear edges, an inset horizontal partition member supported on the upper flanges of the partition sheets, and a back sheet secured to said rear flanges of the side walls and partition sheets.

8. A range having front and side walls provided with flanges extending inwardly along the upper, lower and rear edges thereof, said front wall having a door opening, a bottom sheet secured to the intumed flanges of the side and front walls, partition sheets secured to the front wall at the sides of the door opening and having lateral flanges on edges thereof, an inset horizontal partition member supported on the upper flanges of the partition sheets, a lining sheet engaged between the partition sheets to form an air passageway and to maintain spacing of the partition sheets, and a back sheet secured to the rear flanges of the side walls and to the rear flanges of the partition sheets.

9. In a range, a casing having a top burner compartment and a lower oven compartment, a top cover movable over the burner compartment, and means forming a ventilating passageway between the burner compartment and the oven compartment and having an opening for ventilating the oven compartment, said casing having an opening in the top thereof in communication with the burner compartment for providing an exhaust from the ventilating passageway through the burner compartment when the top cover is in open position.

10. A range including a casing having an open back providing access to the interior of said casing, partitions inserted through said open back to form an oven chamber, an upper burner chamber, and a lower oven burner chamber accessible through said open back, burner assemblies insertable into the respective burner chambers through said open back, means connecting the burner assemblies and arranged for connection through said open back, and a back sheet closing the open back of the casing and forming final support for said partitions.

11. A range including a casing having front and side walls, a bottom, and a horizontal partition dividing the casing into upper and lower compartments accessible through the open back of the casing, partitions forming the lower compartment into an oven compartment and arranged for attachment through said open back, a top liner and an oven bottom supported between said partitions, burner assemblies located in the upper compartment and beneath the oven compartment and accessible through said open back, an oven back liner movable through the open back, and a back sheet closing the open back of the casing, said back sheet being in spaced relation to the oven liner.

12. A range including a casing, spaced vertical partition members arranged transversely in the casing to form oven and fuel tank compartments, a horizontal partition member inset into the top of the casing and carried by the vertical partition members to form the bottom of a burner compartment, a burner in said burner compartment, and a fuel tank unit in the fuel tank compartment, said horizontal partition having a portion extending between the fuel tank unit and

the burner to insulate said fuel tank from heat of the burner.

13. A range including a casing, spaced vertical partition members arranged transversely in the casing to form oven and fuel tank compartments, a horizontal partition member inset into the top of the casing and carried by the vertical partition members to form the bottom of a burner compartment, a burner in said burner compartment, a fuel tank unit in the fuel tank compartment, said horizontal partition having a portion extending between the fuel tank unit and the burner to insulate said fuel tank from heat of the burner, and insulation means cooperating with said vertical partition between the oven and fuel tank compartments for insulating the tank from heat of the oven.

14. A range including a casing, spaced vertical partition members arranged transversely in the casing to form sides of oven and fuel tank compartments, a horizontal partition member inset into the top of the casing and carried by the partition members to form the bottom of a burner compartment, a burner in the burner compartment, and a fuel tank unit in the fuel compartment provided with a generator extending into the burner compartment to supply the burner with vaporized fuel, said horizontal partition member having a portion extending between said tank and the generator and the partition wall adjacent the generator having a portion extending above said horizontal partition member and cooperating with the end wall of said casing in forming an insulating space between the generator and said end wall.

15. A frameless range including, front and side walls formed of a single sheet of material flanged at the upper and lower edges and having door openings in the front wall provided with inwardly extending flanges, a bottom sheet inset between the side walls and having edges supported on the intumed lower flanges to retain the side walls in fixed angular relationship with the front wall and cooperating therewith to form a box-like structure open at the top and back, partition sheets having front edges engaging the intumed flanges at the sides of the door openings to divide said box-like structure into an oven compartment and a fuel compartment, a horizontal partition member inset within the open top, said partition sheets having upper and lower flanges for respectively seating the horizontal partition and for engaging said bottom sheet, and means connected with the side walls and partition sheets for closing the open back of said box-like structure.

16. A frameless range including, front and side walls formed of a single sheet of material flanged at the upper and lower edges and having door openings in the front wall provided with inwardly extending flanges, a bottom sheet inset between the side walls and having edges supported on the intumed lower flanges to retain the side walls in fixed angular relationship with the front wall and cooperating therewith to form a box-like structure open at the top and back, partition sheets having front edges engaging the intumed flanges at the sides of the door openings to divide said box-like structure into an oven compartment and a fuel compartment, a horizontal partition member conforming in shape with said bottom sheet and inset within the open top, said partition sheets having upper and lower flanges for respectively supporting the horizontal partition and for engaging said bottom sheet, a pan-like

liner having flanged edges supported between said upper partition flanges and the horizontal partition member to form a ventilating passage over the oven compartment, central partition sheets being spaced apart and the endmost partition sheets being spaced from the side walls to form insulating spaces, a back liner inset between the partition sheets forming sides of the oven compartment, and means connected with the side walls and partition sheets for closing the open back of said box-like structure.

17. A range having connected front and side walls, said front wall having inwardly directed flanges forming the side edges of a door opening in said wall, a bottom sheet cooperating with the side and front walls to form a box-like structure having an open back and top, partition sheets spaced apart by said intumed flanges and forming sides of an oven chamber, means in said back opening for retaining the partition sheets and

to form a back closure for the oven chamber, an inset horizontal partition member supported on the partition sheets and constituting the bottom of a burner chamber, and a grid supported from the front and side walls in covering relation with said open top.

18. In a range, a casing of substantially rectangular formation having vertical walls, a partition wholly disposed in said casing adjacent the upper regions thereof, dividing the casing into an upper burner compartment and a lower oven compartment, a top wall for said burner compartment, there being an opening in said partition establishing communication between the two compartments and an opening in said top wall, said openings being wholly contained within the space defined by the vertical walls of the casing, and affording a venting means to atmosphere for the oven compartment.

BOYD W. TULLIS.