March 15, 1927. 1,621,141

J. J. TOOMEY

STOVE OR RANGE

Filed April 30, 1925 4 Sheets-Sheet 1

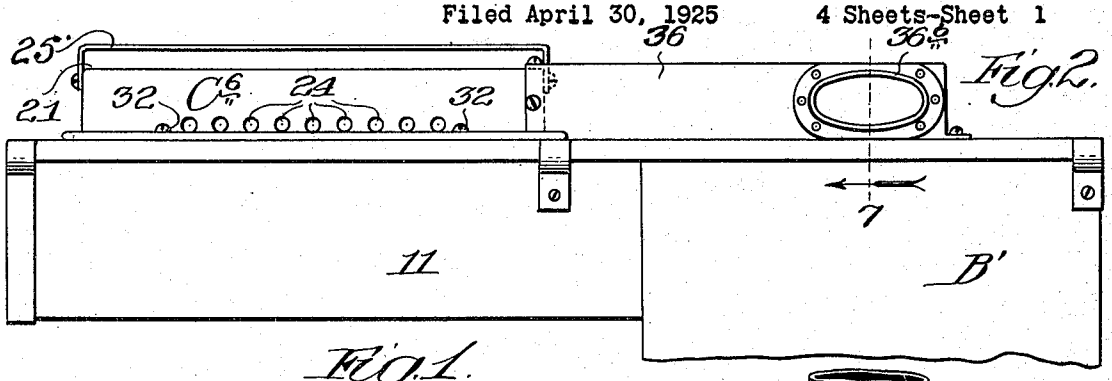
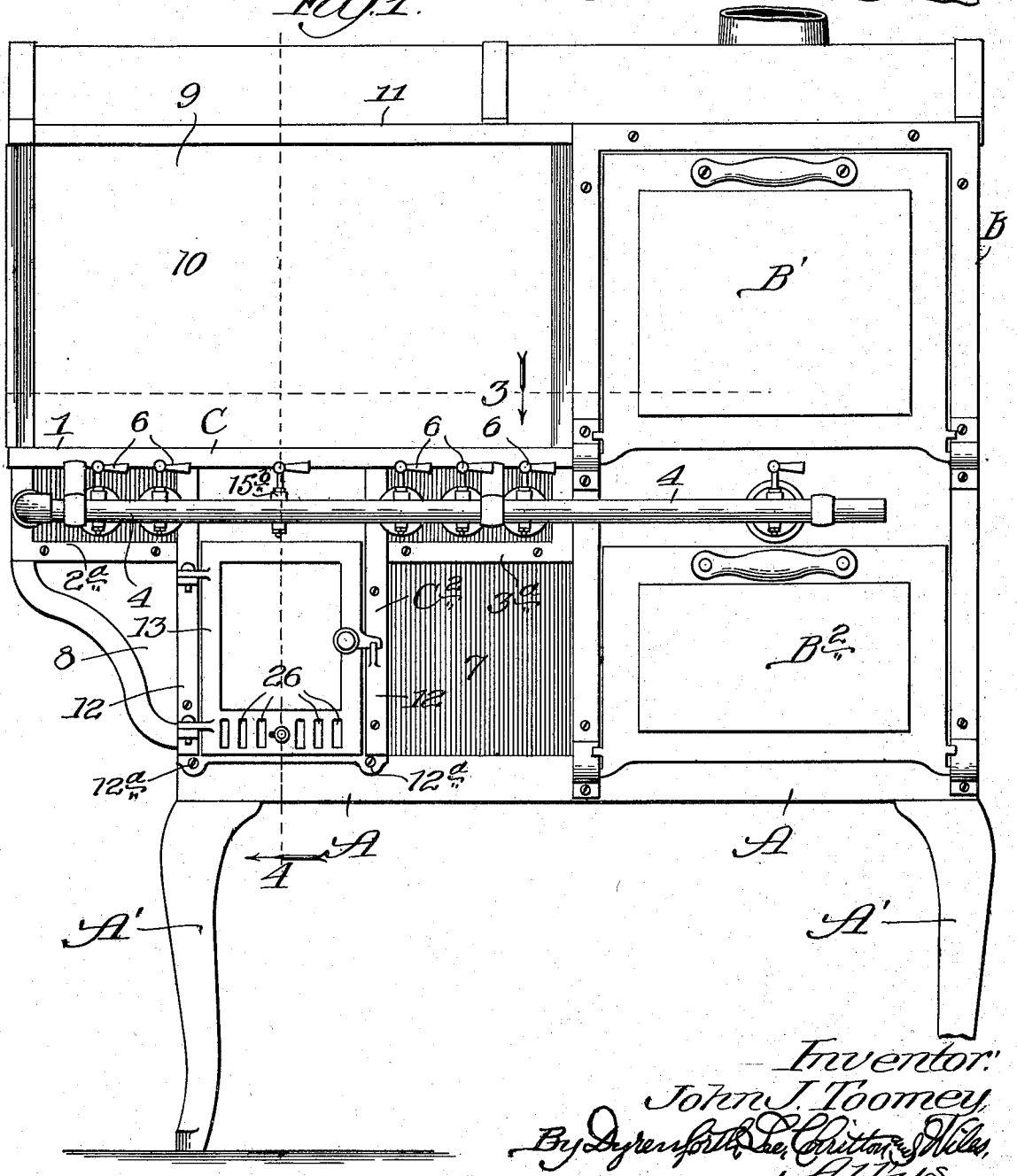


Fig. 2.

Fig. 1.



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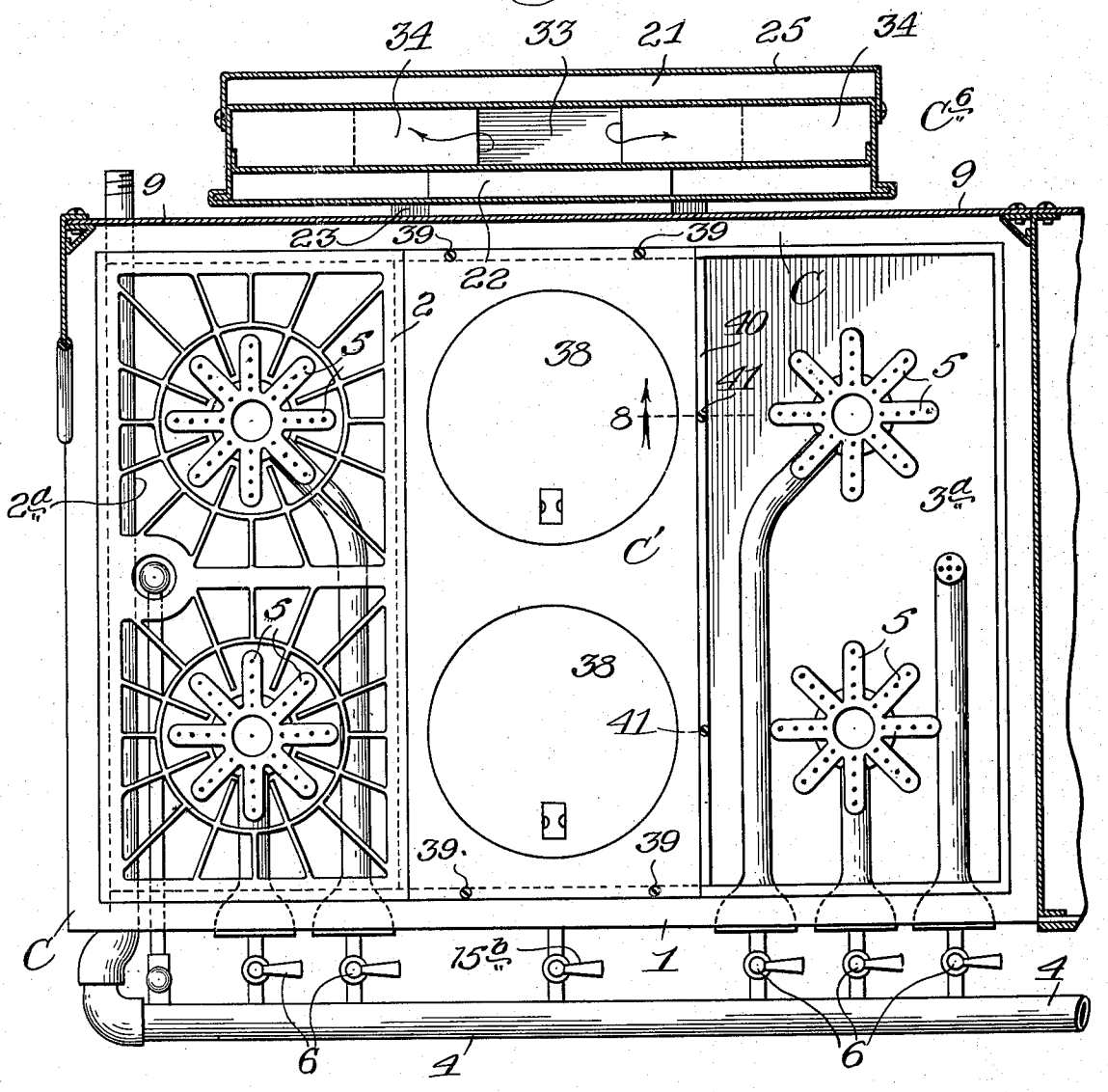
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STOVE OR RANGE

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Fig. 3.



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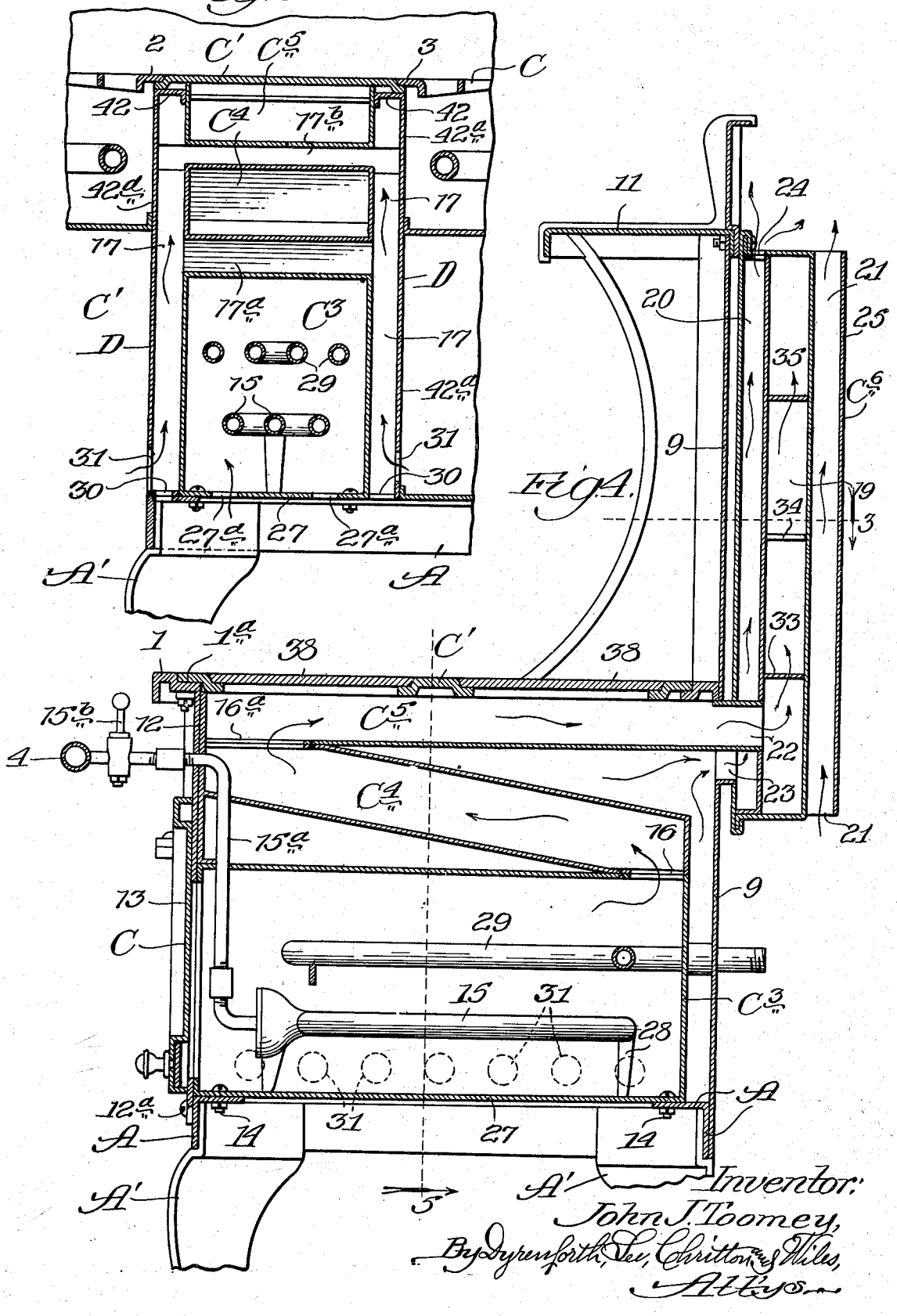
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STOVE OR RANGE

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Fig. 5.



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STOVE OR RANGE

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Fig. 7.

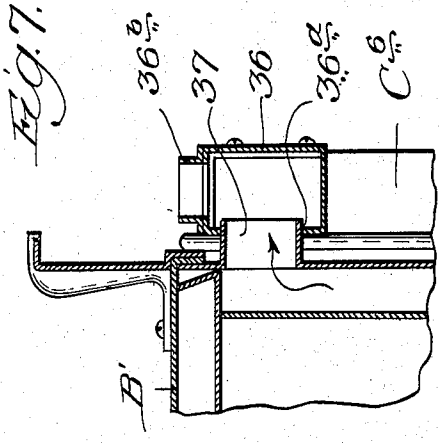


Fig. 6.

Fig. 8.

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Patented Mar. 15. 1927. 1,621,141

UNITED STATES PATENT OFFICE.

JOHN J. TOOMEY, OF CHICAGO, ILLINOIS.

STOVE OR RANGE.

Application filed April 30, 1925. Serial No. 26,894.

This invention relates particularly to ranges of the type which are equipped with cooking-tops and ovens.

The primary object of the invention is to embody in a range of this type an improved heating section, so that the range may be used for the purpose of heating a kitchen, as well as for ordinary cooking and baking purposes.

The invention is illustrated in its preferred embodiment in the accompanying drawings, in which—

Fig. 1 represents a front elevational view of the range constructed in accordance with the invention; Fig. 2, a broken plan view showing the rear portion of the range; Fig. 3, a broken plan sectional view taken as indicated at line 3 of Fig. 1, the view being on an enlarged scale; Fig. 4, a broken vertical sectional view taken as indicated at line 4 of Fig. 1; Fig. 5, a broken transverse sectional view taken as indicated at line 5 of Fig. 4; Fig. 6, a perspective view showing a part of the heating unit employed; Fig. 7, a broken vertical sectional view taken as indicated at line 7 of Fig. 2; and Fig. 8, a broken detailed sectional view illustrating the manner in which the top plate of the heating section is secured in position.

The drawings show the invention embodied in a gas-range, but it will be understood that other heating elements, for example the electric heating elements, may be substituted for the gas burners, if desired.

In the construction illustrated, A designates the base-frame of the range supported on legs A′; B designates an oven unit comprising a baking oven B′ and a broiling oven B^2; and C designates the cooking-top of the range, which, in the illustration given, has a closed central top section C′ which surmounts the heating unit C^2 which is mounted on the base A. The heating section C^2 is equipped with a burner-box C^3 which communicates through flues C^4 and C^5 with a supplemental air heater C^6, as shown in perspective in Fig. 6.

The oven unit B preferably is mounted on one end of the base-frame A, in any suitable manner. The cooking-top C extends laterally from the oven unit B, but is disposed opposite the lower portion of the main oven. The cooking-top comprises a perimetric frame 1 having a depressed portion, or rabbet, 1^a on which the end portions of the central plate C′ are supported. The frame C is supported at a suitable distance above the base-frame A, in any suitable manner. Flanking the central plate C′ are the grid-plates 2 and 3 which are disposed above the burner-boxes 2^a and 3^a, which flank the upper portion of the heating section C^2.

Extending across the front of the range is the gas-manifold 4, which supplies pipes leading to the burners 5 located in the burner-boxes 2^a and 3^a. The pipes which supply said burners are controlled by means of valves 6. The cooking sections which flank the heating section may be of any desired construction. In the construction illustrated, the range is provided between the heating section and the broiler oven with a space 7 which may serve as a warming chamber. Also, at the opposite side of the heating section C^2, the range is equipped with a triangular plate 8 which serves both as a finish plate and a brace.

The rear wall 9 of the range extends above the cooking space 10, and is equipped with a shelf 11.

The heating section C^2 of the range preferably comprising a front frame 12 having its lower ends secured by bolts 12^a to the base-frame A and having its upper end secured, in any suitable manner, to the perimetric frame 1 of the cooking-top; a door 13 mounted on the frame 12; the burner-box C^3 having its lower walls secured by bolts 14 to the frame A; a gas-burner 15 mounted in the lower portion of the burner-box C^3 and supplied with gas through a pipe 15^a which communicates with the manifold 4 and which is controlled by a valve 15^b; the forwardly and upwardly inclined flue C^4 whose rear end communicates through a passage 16 with the rear upper portion of the burner-box C^3; and the top flue C^5 with which the upper front end of the flue C^4 communicates through a passage 16^a.

As most clearly shown in Fig. 5, the burner-box C^3, and the flues leading therefrom, are located in a chamber D which comprises walls extending from the base-frame A to the cooking-top C. These elements are so arranged within the chamber D as to afford air-flues 17 between said elements and the walls of the chamber D. The flues 17 are also cross connected by air-

flues 17^a and 17^b, afforded by the spaces between the elements mentioned.

The top flue C^5 has its upper wall cut away throughout the greater part of the length of the flue, as indicated at 18; and the central plate C', forming the closed top of the central section, serves as a top wall for the flue C^5.

The supplemental heater C^6 is disposed back of the rear wall 9. It is of rectangular form and is disposed parallel with the back of the range. Preferably, it comprises an enlarged gas-flue 19, and a pair of air-flues 20 and 21 located respectively in front of and behind the gas-flue 19.

The upper gas-flue C^5 of the central heating section extends through the rear wall 9 of the range and through the front air-flue 20, as indicated at 22, and communicates with the lower portion of the enlarged gas-flue 19 of the supplemental heater. The air-flues 17, 17^a and 17^b of the central heating sections C' communicate through a passage 23 with the lower portion of the air-flue 20 of the supplemental heater. The air-flue 20 opens through a passage 24 at its upper end and thus communicates with the external atmosphere at the upper rear portion of the range and in the rear of the usual back wall of the range. The air passage 21 is open at both the upper and lower ends. Its function is to provide for independent air circulation which will heat the air only moderately so that the extreme rear wall 25 of the supplemental heater will not become hot. Thus, this wall may safely be placed very close to the wall of the room.

The lower portion of the door 13 is shown with an air register 26 through which air may be admitted to the burner 15. Also, it is preferred to provide the bottom wall 27 of the burner-box C^3 with perforations 27^a for admitting air to the burner 15. The burner 15 is shown equipped with supporting lugs 28 which rest upon the bottom wall 27. In the illustration given, a water coil 29 is shown mounted in the box C^3 above the burner 15. This coil may be connected with a hot water tank, in any suitable manner. The feature may be used, or omitted, as desired.

In my reissue Patent No. 15,850, granted May 27, 1924 there is shown and described a range having an oven unit and a cooking-top, these parts being interchangeably mounted upon a suitable base-frame. In the present invention, use may be made of the feature of interchangeability, if desired. Also, while I have illustrated the invention as embodied in a range wherein the central section of the cooking-top comprises the top of a heating unit, it will be understood that the arrangement may be modified in any desired manner.

By reference to Fig. 5, it will be noted that air is supplied to the air-flue 17 by means of openings, or perforations, 30 at the bottom of said flues, and also by means of openings, or perforations, 31 in the lower portions of the side-walls of the chamber D. The air passes through the flues of the central heating section, thence out through the opening 23 into the passage 20 of the supplemental heater, and escapes through the openings 24 into the room. The efficiency of the heat section is increased by employing the supplemental heater C^6. However, the supplemental heater may be omitted, if desired. The supplemental heater is supported on the rear end of the gas-flue C^5, and is also connected with the air-flue 23. The supplemental heater may be additionally connected with the back wall of the range, as by means of screws 32, which pass through perforations 32^a with which a flange of the supplemental heater is provided.

The gas-flue 19 of the supplemental heater preferably is provided with baffle plates 33, 34 and 35, which are staggered with relation to each other and arranged in any desired manner to compel the gases to pursue a circuitous route. Extending laterally from the upper portion of the gas-flue 19, is a gas-flue 36. This flue 36 extends back of the upper portion of the oven and is provided with an ingress opening 36^a with which communicates a flue 37 which conducts the gases from the oven to the flue 36, as appears from Fig. 7. The flue 36 is provided with a nipple 36^b for connection with a stove pipe.

It will be understood that when the heat section is in use, the top plate C' will become sufficiently heated to serve for cooking purposes. The plate C' is shown equipped with removable leads 38. The end portions of the plate C' are connected by screws 39 with the marginal frame C; and the edge portions of the plate C' are provided with rabbeted portions 40 which receive the lateral edges of the grid-plates 2 and 3. These rabbeted portions are connected by screws 41 with flanges 42 with which the side-walls 42^a of the heat chamber D are provided. This will be readily understood from Figs. 3, 5 and 8.

From the description given, it will be understood that the improved construction provides a range-section whose top forms a part of the cooking-top of the range. This section can be used both for heating purposes and for cooking and warming purposes. The arrangement illustrated, wherein the heating section of the cooking-top portion of the range is spaced from the oven a sufficient distance to provide an interposed warming chamber 7, is preferred.

While it is preferred to space the top of the burner-box C^3 some distance below the

bottom wall of the flue C^5 and employ the inclined flue C^4 to connect the rear portion of the burner-box with the front portion of the flue C^5, it will be understood that this construction may be modified, as desired.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible, in view of the prior art.

What I regard as new, and desire to secure by Letters Patent, is:

1. A range comprising a cooking-top provided with a closed top section, a flue extending beneath said closed top section, a heating chamber disposed beneath said flue, and a heating element disposed in said heating chamber, said heating chamber being provided also with air passages communicating with the room and enabling air to be circulated through said heating chamber from and into the room.

2. A range comprising a cooking-top provided with a closed top section, a gas-flue extending beneath said closed top section and through the rear wall of the range, a burner-box disposed beneath said flue and communicating with the front end portion thereof, a gas-burner located in said burner-box, and a supplemental air heater disposed back of the range and having a gas-flue communicating with said first-named flue.

3. A range comprising a cooking-top having a closed top section and a heating unit whose top is provided by said closed top section, said heating unit comprising a flue extending beneath said closed top section, and a burner-box disposed beneath said flue and communicating with the front portion of said flue, a gas-burner located in said burner-box, and air-flues associated with said burner-box and said first-mentioned flue, said air-flues having an egress through the rear wall of the range.

4. A range comprising a cooking-top having a heating section provided with a closed top and having a flanking section provided with a grid, said heating section comprising a gas-flue disposed beneath the closed top, a burner-box disposed below and communicating with said flue, and air-flues associated with said burner-box and said flue and having an egress through the rear wall of the range; a burner-box disposed at one side of the upper portion of the heating section; gas-burners disposed in said burner-boxes; and a manifold extending across the front of the range and equipped with gas pipes serving to supply said burners.

5. A range comprising a cooking-top provided with grid sections and a closed section; burner-boxes disposed beneath the grid sections; gas-burners located in said burner-boxes; a gas-flue disposed beneath the closed top section and extending through the rear wall of the range; a burner-box disposed beneath said gas-flue and communicating with the front portion thereof; a gas-burner disposed in said last-mentioned burner-box; and a manifold having branch pipes serving to supply gas to said burners.

6. A range comprising a cooking-top provided with grid sections and a closed section; burner-boxes disposed beneath the grid sections; gas-burners located in said burner-boxes; a gas-flue disposed beneath the closed top section and extending through the rear wall of the range; a burner-box disposed beneath said gas-flue and communicating with the front portion thereof; a gas-burner disposed in said last-mentioned burner-box; a manifold having branch pipes serving to supply gas to said burners; air-flues associated with said last-mentioned burner-box and with said flues and having an egress passage through the rear wall of the range; and a supplemental air heater disposed back of the range and having a gas-flue and an air-flue communicating respectively with said first-mentioned gas-flue and air-flues.

7. A range comprising a base-frame; an oven unit mounted on one end thereof; and a combined cooking-top and heating unit mounted on the other end portion of said base-frame and comprising a grid section equipped with a gas-burner and a closed top heating section having a flue extending beneath the closed top and through the rear wall of the range, a burner-box disposed beneath said flue and communicating with the front end portion thereof, a burner located in said burner-box, and air-flues associated with said gas-flue and burner-box and having an egress passage extending through the rear wall of the range.

8. A range comprising a cooking-top having a closed section, a gas-flue disposed beneath said closed section, a burner-box disposed beneath said gas-flue and communicating with the front portion thereof, a burner located in said burner-box, air-flues associated with said burner-box and with said gas-flue; and a supplemental heater disposed back of and parallel with the rear wall of the range and comprising a gas-flue communicating with said first-mentioned flue and an air-flue communicating with said first-mentioned air-flues.

9. A range comprising an oven unit provided with gas-flues and a cooking-top disposed at one side of the oven unit, a heating section which is provided with a gas-flue and air-flues and whose top forms one section of the cooking-top, a supplemental heater disposed back of the range and provided with a gas-flue and with an air-flue, said flues communicating respectively with the gas-flue and the air-flues of said heating section; and a gas-flue communicating

with the gas-flues of the oven and with the gas-flue of said supplemental heater.

10. A range comprising a cooking-top having a closed top section, a gas-flue extending beneath said closed top section and having its top wall cut away to admit the gases into direct contact with the closed top, a burner-box disposed beneath and independent of said gas-flue and communicating with the front portion thereof, and a burner disposed in said burner-box.

11. A range comprising a base-frame, an oven unit mounted on one end of said frame, and a cooking-top mounted on the other end of said frame, said cooking-top having one section comprising the top of a heating unit, said heating unit comprising a heating chamber provided with passages for air circulation, a gas-flue in the upper portion of said heating chamber, a burner-box disposed beneath said gas-flue and communicating with the front portion thereof, and a burner located in said burner-box.

12. A range comprising a base-frame, an oven unit mounted on one end of said frame, and a cooking-top mounted on the other end of said frame, said cooking-top having one section comprising the top of a heating unit, said heating unit comprising a heating chamber provided with passages for air circulation, a gas-flue in the upper portion of said heating chamber, a burner-box disposed beneath said gas-flue and communicating with the front portion thereof, a burner located in said burner-box; and a supplemental heater disposed back of and parallel with the rear wall of the range and comprising a gas-flue and an air-flue associated therewith, said last-mentioned flues communicating respectively with the gas-flue of the heating unit and with the interior of said heating chamber.

13. A range comprising a base-frame, an oven unit mounted on one end thereof, and a cooking-top mounted on the other end thereof, said cooking-top comprising a grid section adjacent the oven and a closed top section adjacent said grid section, said closed top section surmounting a heating unit comprising a gas-flue and a burner-box communicating therewith associated with air-flues, said gas-flue and air-flues communicating with passages extending through the rear wall of the range.

14. A range comprising a base-frame, an oven unit mounted on one end thereof, and a cooking-top mounted on the other end thereof, said cooking-top comprising a grid section adjacent the oven and a closed top section adjacent said grid section, said closed-top section surmounting a heating unit comprising a gas-flue and a burner-box communicating therewith associated with air-flues, said gas-flue and air-flues communicating with passages extending through the rear wall of the range; and a supplemental heater disposed back of the range and having a gas-flue communicating with said first-mentioned gas-flue and having an air-flue communicating with said first-mentioned air-flues.

15. A range comprising a base-frame, an oven unit supported on one end thereof, and a cooking top supported on the other end thereof, said cooking top comprising a pair of grid sections and an interposed closed top section, said closed top section having a gas-flue extending beneath the closed top and having a burner-box communicating with the front portion of said gas-flue.

16. A range comprising a cooking-top having a closed top section, a gas-flue disposed beneath the closed top, a burner-box spaced some distance below said gas-flue, a flue leading from the rear portion of said burner-box to the front portion of said first-named flue, and a gas-burner located in said burner-box.

17. A range comprising a cooking-top having a heating section provided with a closed-top and with a rear outlet, a heating element in said heating section, air-flues associated with said heating section; and a supplemental heater disposed back of the rear wall of the range and comprising a flue communicating with said outlet and an air-flue communicating with said first-named air-flues.

18. A range comprising an oven-unit provided with gas-flues, and a cooking-top disposed at one side of the oven-unit, a heating section which is provided with a gas outlet and with air-flues and whose top forms one section of the cooking-top, a supplemental heater disposed back of the range and provided with a gas-flue and with an air-flue which communicate, respectively, with the gas-flue and the air-flues of said heating section; and a gas-flue communicating with the gas-flues of the oven and with the gas-flue of said supplemental heater.

19. A range comprising a base-frame, an oven-unit mounted on one end thereof, and a cooking-top mounted on the other end thereof, said cooking-top comprising a grid section and a closed top section adjacent said grid section, said closed top section surmounting a heating unit comprising a heating chamber having a gas outlet and associated air-flues, a gas-burner in said heating chamber; and a supplemental heater disposed back of and parallel with the rear wall of the range and comprising a gas-flue communicating with the gas outlet of said heating chamber and an air-flue communicating with the air-flues of said heating chamber.

20. A gas stove comprising an oven unit disposed at one end and an open burner unit at the side of said oven unit and a closed

burner unit at the side of said open burner unit, said closed burner unit being provided with a burner chamber, an air drum disposed at the rear of said open and closed burner units and provided with a discharge at the top, a discharge flue for said closed burner chamber disposed through said air drum, and an air heating passage operatively associated with said closed burner chamber and having a discharge connection to said heating drum.

21. A gas stove comprising an oven unit disposed at one end, open and closed burner units disposed side by side at the side of said oven unit, said closed burner unit being provided with a burner chamber having a top provided with lids, an air drum disposed at the rear of said burner units and provided with a discharge at the top, and a discharge flue for said closed burner chamber disposed through said air drum.

22. A gas stove comprising an open burner unit and a closed burner unit provided with a burner chamber, an air drum disposed at the rear of said units and having a discharge at the top, a discharge flue for said closed burner chamber disposed within said air drum, and an air passage associated with said burner chamber delivering to said air drum.

23. A gas stove comprising open and closed burner units disposed side by side, said closed burner unit being provided with a closed burner chamber, an air drum disposed at the rear of said units and open for the circulation of air therethrough, a discharge flue for said closed burner chamber disposed in said air drum, and an air heating passage operatively associated with said burner chamber.

24. A gas stove comprising an oven unit and open and closed burner units disposed side by side, said closed burner unit being provided with a burner chamber and having a top provided with a lid, an air drum disposed at the rear of said burner units and open at the top and bottom for the circulation of air therethrough, and a discharge flue for said closed burner chamber disposed in said air drum.

25. A gas stove comprising a burner chamber, an air heating drum at the rear thereof, said burner chamber having a discharge flue disposed through said air heating drum, and an air heating passage operatively associated with said burner chamber delivering to said drum.

26. A gas stove comprising a burner chamber, an air heating drum at the rear thereof, said burner chamber having a discharge flue disposed through said air heating drum, and an air heating passage operatively associated with said burner chamber.

27. A gas stove comprising a burner chamber having a top provided with a lid, a burner in said chamber, and an air heating passage operatively associated with said burner, said passage being open for the circulation of air therethrough, for the purpose specified.

28. A combined heater and cooking stove comprising in combination with a stove having oven compartments at one side and a cooking-top and a compartment beneath the same at the other side, of a heater installed within said compartment.

29. A combined heater and cooking stove comprising in combination with a stove having oven compartments at one side and a cooking-top and a compartment beneath the same at the other side, of a heater installed within said compartment having a fresh, cold air inlet in the bottom of said compartment, and an outlet for delivering the heated air from the stove.

30. A combined heater and cooking stove comprising a cooking-top having a compartment therebeneath, a manifold extending across the front of said cooking-top for supplying gas to the burners thereof, and a heater installed within said compartment having a burner therein connected with said manifold.

31. A combined heater and cooking stove comprising a cooking-top having a compartment therebeneath, a manifold across the front of said cooking-top for supplying gas to the burners thereof, a heater installed within said compartment having a burner therein connected with said manifold, said heater having fresh, cold air inlets in the bottom of said compartment, and warm air outlets at the back of said compartment, and a conduit leading from said outlets for delivering the heated air from the stove.

32. A combined heater and cooking stove comprising a cooking-top having a back wall thereabove and a compartment therebeneath, a heater installed within said compartment, said compartment being provided with fresh air inlets in the bottom thereof and warm air outlets at the back thereof, and a conduit communicating with said warm air outlets extending up the back of the stove and having its discharge arranged to direct the heated air from the stove.

33. A gas stove comprising a burner chamber having a closed top, a burner in said chamber, and an air-heating passage operatively associated with said burner, said passage being open for the circulation of air therethrough, for the purpose specified.

34. A combined heater and cooking stove comprising in combination with a range having oven compartments at one side and a cooking-top disposed at one side of said oven and a rear wall back of the space above said cooking-top, of a heater associated with the cooking-top section of the range having an air flue provided with an inlet for fresh,

cold air and provided with an outlet through the back of the range, and an air-flue back of said rear wall communicating at its lower portion with said first-named air-flue and having a discharge outlet near the upper portion of said rear wall.

35. A gas stove comprising an oven-unit equipped with an outlet flue for the products of combustion, a cooking-top disposed at one side of said oven-unit, a gas-burner for air-heating purposes disposed below said cooking-top, a burner chamber containing said gas burner and having a combustion flue leading to the rear of the stove and thence to said first-named flue, air-heating flues associated with said burner chamber and the flue thereof, and a supplemental air-heating device associated with the rear portion of said stove and receiving heated air from said air-heating flues, said combustion flue having a portion associated with said supplemental air-heating device.

36. A gas stove comprising an oven-unit equipped with an outlet flue for the products of combustion, a cooking-top disposed at one side of said oven-unit, a gas-burner for air-heating purposes disposed below said cooking-top, a burner chamber containing said gas-burner and having a combustion flue communicating with said first-named flue, an air-heating flue associated with said burner chamber combustion flue, and an air-flue device in parallel relation with the back of the stove and receiving heated air from said air-heating flue, said air-flue device communicating with the atmosphere at a distance above said cooking-top.

37. A gas stove comprising an oven-unit equipped with an outlet flue for the products of combustion, a cooking-top disposed at one side of said unit, a gas-burner for air-heating purposes disposed below said cooking-top, a burner chamber containing said gas-burner and having a flue leading therefrom, air-heating flues associated with said burner chamber and the flue thereof, and a supplemental air-heating device associated with the rear portion of said stove and receiving heated air from said air-heating flues, the flue from said burner chamber having a portion associated with said supplemental air-heating device and having communication with said first-named flue.

38. A gas stove comprising an oven-unit equipped at the back portion with an outlet passage for products of combustion, a pipe-connecting combustion-products flue communicating with said passage and having a lateral extension disposed back of said oven-unit, a cooking-top disposed at one side of said oven-unit, a gas-burner for air-heating purposes disposed below said cooking-top, a burner chamber containing said gas-burner and having a flue leading therefrom to the rear of the stove and thence to said lateral extension, air-heating flues associated with said last-named flue, and a supplemental air-heating device disposed back of said stove and rising some distance above the cooking-top and having at its upper portion an outlet to the atmosphere, said supplemental air-heating device receiving heated air from said air-heating flues, and the flue leading from said burner chamber having a portion operatively associated with said supplemental air-heating device.

39. A gas stove comprising a cooking-top equipped with cooking-top burners, a vertical air-drum at the rear of the cooking-top and rising above the same and communicating at its upper portion with the atmosphere, a burner for air-heating purposes disposed below said cooking-top and having a combustion-products flue provided with a portion which is associated with said air-drum, and an air-heating flue associated with said burner chamber and the flue leading therefrom and discharging through said drum.

40. A gas stove comprising a cooking-top, cooking-top burners, and a rear splasher wall disposed back of the space above the cooking-top, a vertical air-flue device disposed back of said splasher wall and provided at its upper portion with an outlet to the atmosphere, a burner for air-heating purposes disposed beneath said cooking-top, a burner chamber therefor having a combustion-products flue leading therefrom, and an air-heating flue associated with said last-named flue and discharging through said air-flue device.

41. A gas stove comprising a cooking-top, cooking-top burners, and a rear splasher wall disposed back of the space above the cooking-top, a vertical air-flue device of general rectangular form disposed back of and in parallel relation with respect to the rear wall of the stove and having an outlet to the atmosphere adjacent the upper portion of said splasher wall, a burner for air-heating purposes disposed beneath said cooking-top, a burner chamber therefor having a combustion-products flue leading therefrom, and air-heating flues associated with said burner chamber and the flue thereof and discharging through said air-flue device.

42. A gas stove comprising an oven-unit equipped with an outlet flue for the products of combustion, a cooking-top at one side of said oven-unit, cooking-top burner, a rear splasher disposed back of the space above the cooking-top, a vertical air-flue device disposed back of said splasher and provided at its upper portion with an outlet to the atmosphere, a burner for air-heating purposes disposed beneath said cooking-top, a burner chamber therefor having a combustion-products flue leading therefrom and discharging its combustion-products through said first-named flue, and an air-heating flue

associated with the flue leading from said combustion chamber and discharging through said air-flue device.

43. A gas stove comprising a cooking-unit provided with a burner, a heating burner chamber provided with a burner enclosed therein, an air-heating drum, said burner chamber having a combustion-products discharge flue operatively associated with said drum, and an air-heating passage operatively associated with said burner chamber and delivering to said drum.

44. A gas stove comprising an oven-unit having a burner and provided with a discharge flue for the products of combustion, an open burner-unit at one side of the oven-unit, a closed burner-unit comprising a burner chamber and an enclosed burner, a discharge flue for said closed burner chamber connected to said oven discharge flue, and an air circulating passage operatively associated with said discharge flue of said closed burner-unit and discharging at the rear of the stove and above said open burner-unit.

45. A gas stove comprising an open burner-unit, a heating burner-unit comprising a burner chamber and an enclosed burner, an air-drum comprising a horizontal portion below said open burner-unit and a vertical portion at the rear of said open burner-unit, and a discharge flue for said burner chamber operatively associated with said horizontal portion of said air-circulating flue.

46. A gas stove comprising an open burner-unit, a heating burner chamber provided with a burner, an air-heating drum, said burner chamber having a discharge flue operatively associated with said air-heating drum, and an air-heating passage operatively associated with said burner chamber and delivering to said drum.

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