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Feb. 5, 1929. 1,700,938

A. KOSMOPULOS ET AL

GAS STOVE

Filed Jan. 11, 1926 3 Sheets-Sheet 1

FIG. 1.

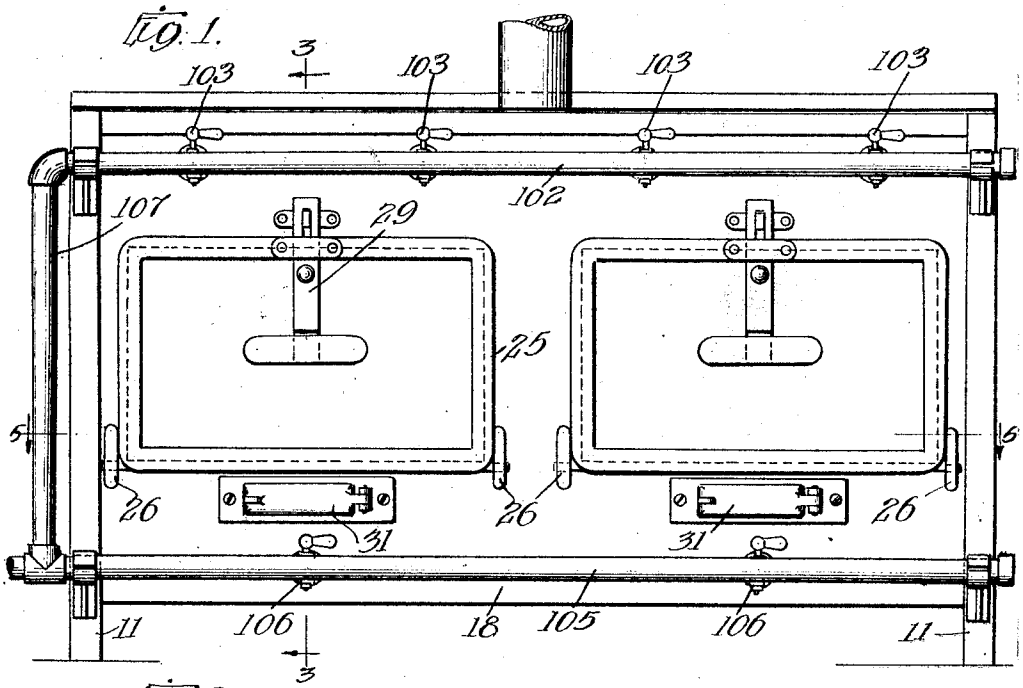
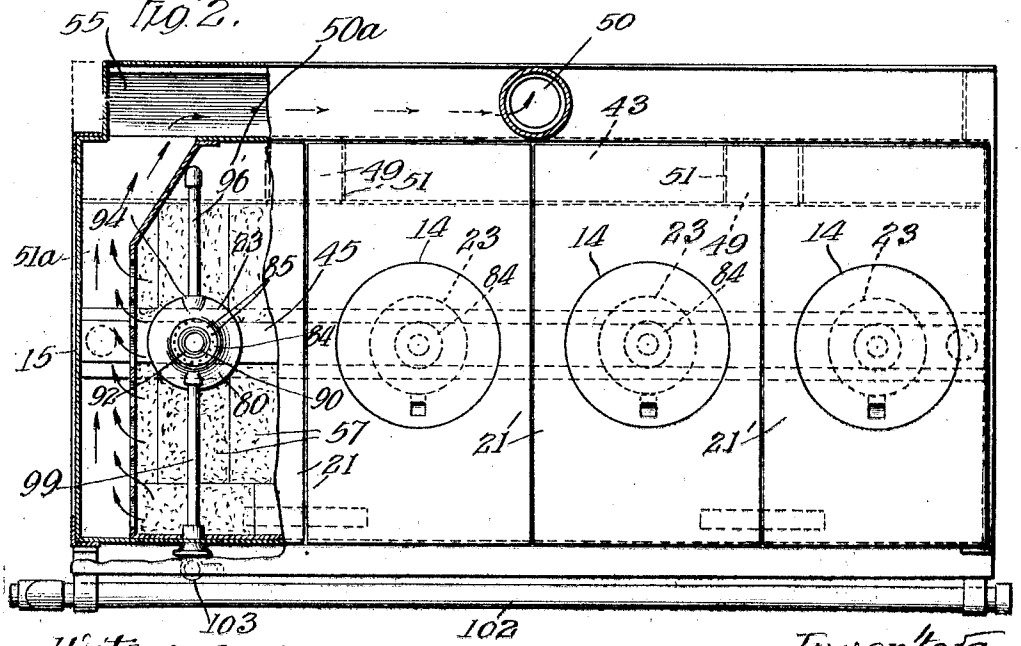



FIG. 2.




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Fig. 3.

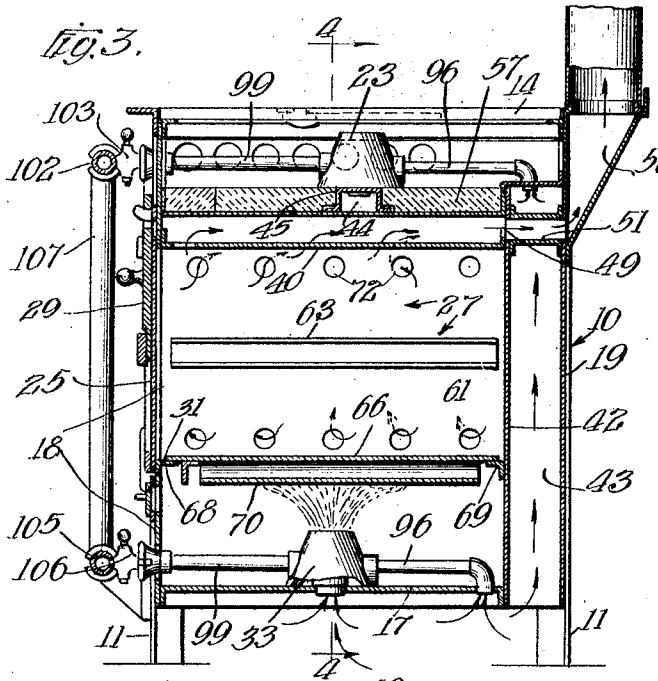
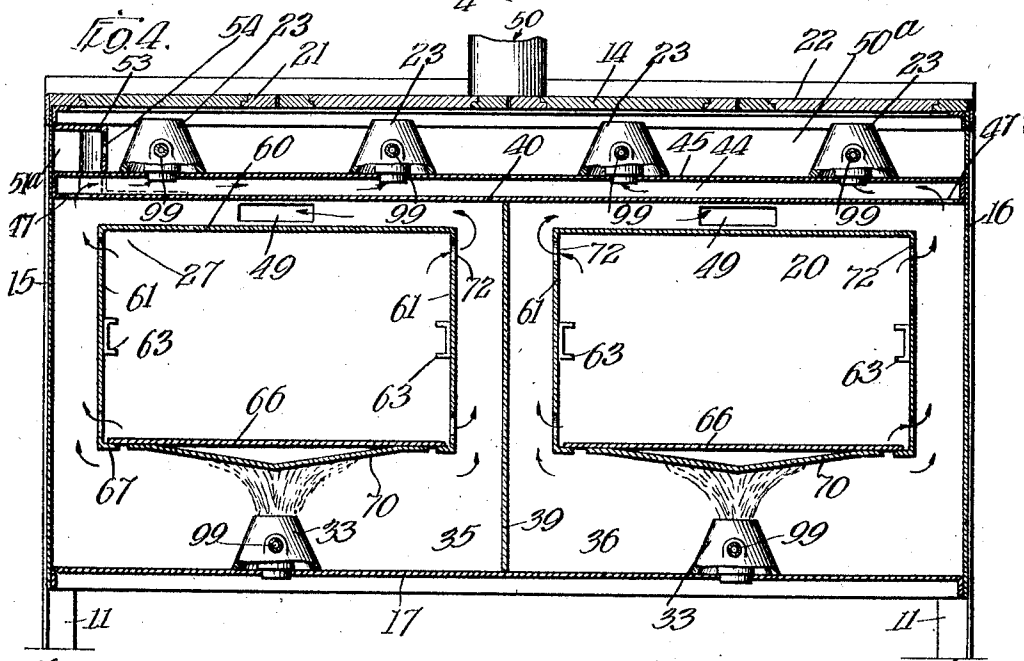



Fig. 4.




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GAS STOVE

Filed Jan. 11, 1926 3 Sheets-Sheet 3

Fig. 5.

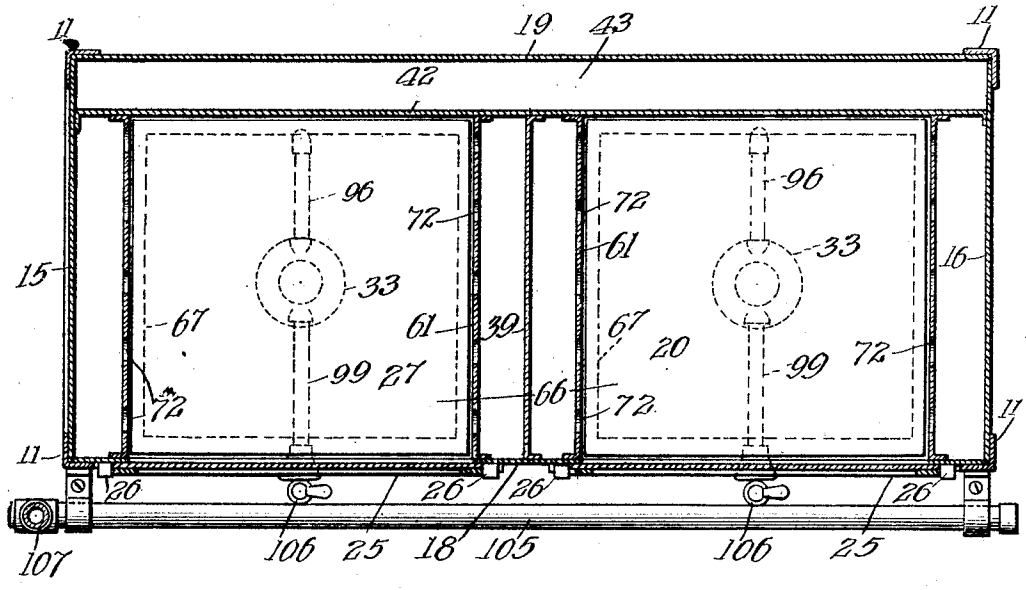



Fig. 6.

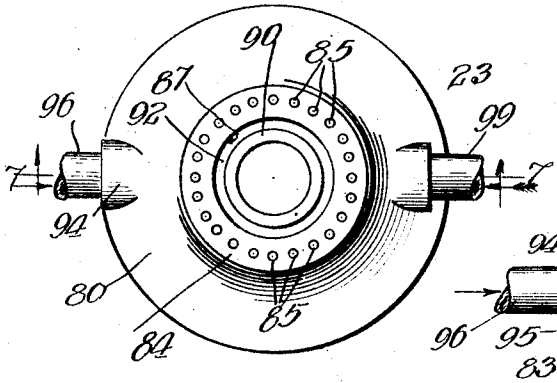
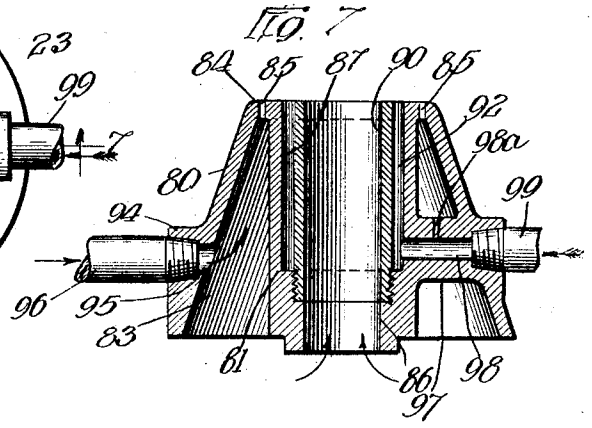



Fig. 7




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Patented Feb. 5, 1929. 1,700,938

# UNITED STATES PATENT OFFICE.

ALEXANDER KOSMOPULOS, OF CHICAGO, AND CHRISTIAN EVENSEN, OF RIVER GROVE, ILLINOIS.

## GAS STOVE.

Application filed January 11, 1926. Serial No. 80,547.

Our invention relates to gas stoves and has among its other objects the production of devices of the kind described which are neat and attractive in appearance, compact, convenient, durable, efficient and satisfactory for use wherever found applicable.

A particular object of the invention is to provide a device of the kind described having improved means for heating, baking, broiling, cooking or roasting food.

Another particular object of the invention is to provide improved burners for devices of the kind described.

Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art from the disclosures herein given.

To this end our invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claims.

In the drawings, wherein like reference characters indicate like or corresponding parts:

Fig. 1 is a front elevation of a gas stove embodying the invention;

Fig. 2 is a plan view of the improved gas stove, a portion of the gas stove being broken away to illustrate certain details of construction;

Fig. 3 is a section taken on line 3—3 of Fig. 1;

Fig. 4 is a section taken on line 4—4 of Fig. 3;

Fig. 5 is a section taken on line 5—5 of Fig. 1;

Fig. 6 is a plan view of a burner embodying the invention; and

Fig. 7 is a section taken on line 7—7 of Fig. 6.

In the drawings we have illustrated a preferred form of the invention embodied in a gas stove particularly adapted to be employed in the kitchens of restaurants, hotels and the like, the gas stove preferably comprising a housing which is designated generally by the reference character 10 and is preferably mounted upon legs 11. The housing 10 preferably comprises a top 14 of cast iron, or any other suitable material, side walls 15 and 16, a bottom wall 17, a front wall 18 and a rear wall 19. The top wall 14 is provided with suitable apertures 21 adapted to accommodate stove lids 22, the stove lids being in alignment with burners 23 positioned directly beneath the top 14. The front wall 18 is provided with a plurality of doors 25 hinged as at 26 to permit access to ovens 27 and 28 disposed within the housing. A latch 29 is preferably provided for each door 25. The front wall 18 is also provided with relatively small doors 31 disposed beneath the doors 25 and aligned with burners 33 which rest upon the bottom wall 17 and are substantially identical in construction with the aforementioned burners 23.

As best shown in Fig. 4, separate compartments 35 and 36 are provided for the ovens 27 and 28, respectively, the compartment 35 extending from the side wall 15 to a vertically disposed partition 39 extending from the bottom wall 17 to a horizontal partition 40 which extends from the wall 15 to the wall 16. The compartment 36 extends from the partition 39 to the side wall 16 and the partition 39 preferably extends from the front wall 18 to a vertically disposed partition 42 which is spaced from the rear wall 19 to provide a passage 43 opening at its lower end for a purpose which will presently appear.

Mounted upon the upper side of the partition 40 and forming a passage 44 is a U-shaped member 45 upon which the burners 23 rest. It will be noted that the partition 40 is provided with openings 47 through which the compartments 35 and 36 communicate with the passage 44. It will also be noted that the partition 42 is provided with apertures 49 through which the compartments communicate with a flue 50 by way of tubular members 51 secured between the partition 42 and the rear wall 19.

Referring now to Figs. 2 and 3, the burners 23 are disposed in a chamber which is designated by the reference character $50^a$, the chamber having a passage $51^a$ formed in one end of it by a bent partition 53. The chamber $50^a$ communicates with the passage $51^a$ through apertures 54 provided in the partition 53 and the passage $51^a$ communicates with the flue 50 through a passage 55 extending longitudinally of the stove at its rear side. As illustrated, the chamber $50^a$ extends from the top 14 to fire-brick 57 positioned upon the upper surface of the partition 40.

Each of the ovens 27 and 28 comprises a top wall 60 and side walls 61, which top and side walls are spaced from the side walls 15 and 16 and the partitions 39 and 40. The

top walls 60 and side walls 61 extend from and are secured to the front wall 18 and the partition 42. Guides 63 are provided upon the inner surfaces of the side walls 61 so that suitable trays or the equivalent may be positioned within the ovens. Each oven also comprises a removable bottom wall 66 which is supported upon flanges 67 formed integrally with the side walls 61 and upon angle irons 68 and 69 formed integral or mounted upon the front wall 18 and the partition 42, respectively. Secured to the underside of each bottom wall 66 is a baffle 70 which prevents the flame from burning out the bottom wall and also divides it so that a portion of the heat will flow to each side of the oven. The walls 61 are preferably provided with apertures 72 through which gases and vapors may escape from the ovens to the compartments 35 and 36.

In Figs. 6 and 7, we have illustrated one of our improved burners 23 in detail, it being understood that the burners 23 are substantially identical in construction with the burners 33. As shown, each burner 23 preferably comprises a substantially frusto-conical wall 80 formed integral with or otherwise secured to a substantially cylindrical wall 81 to form a chamber 83. The wall 80 forms an annular apex with the wall 81, as indicated at 84, the apex being provided with apertures 85 through which the chamber 83 communicates with the atmosphere. The cylindrical wall 81 is provided with a central bore 86 extending therethrough, the bore 86 being enlarged at its upper end as at 87. Disposed concentric with the bore 86 and screw-threaded into the wall 81 is a tube 90, which together with the wall 81, forms an annular passage 92, the annular passage 92 being open to the atmosphere at its upper end and being surrounded by the apertures 85. Formed integral with the wall 80 is a lug 94 having a bore 95 into which one end of an air intake pipe 96 is screw-threaded in such manner that it communicates with the chamber 83. Formed integral with the walls 80 and 81 and extending therebetween is a lug 97 having a bore 98 which communicates with the annular passage 92 and with a gas pipe 99 screw-threaded into the lug 97. A port 98[a] communicates with the bore 98 and with the chamber 83. It will be noted that the lower ends of the chambers 83 of the burners 23 are normally closed by the U-shaped member 45 and fire-brick 57 and that the lower ends of the chambers 83 of the burners 33 are normally closed by the bottom wall 17. The air intake pipes 96 of the burners 23 communicate with the upper end of the passage 43, and the air intake pipes 96 of the burners 33 extend through the bottom wall 17 so that air is drawn into the burners from beneath the stove. The gas supply pipes 99 of the burners 23 communicate with a pipe 102 disposed in front of the stove, valves 103 being provided for controlling the flow of gas to the burners. The pipes 99 for supplying gas to the burners 33 communicate with a pipe 105 disposed in front of the stove, valves 106 being provided for controlling the flow of gas to the burners 33. The pipe 102 is connected to the pipe 105 by a pipe 107 and the pipe 105 is connected to any suitable means (not shown) for delivering gas under pressure.

The direction of the flow of the heated air and burnt gases in the stove is indicated by arrows. Thus, heated air and vapors may escape from the ovens 27 and 28 by way of the apertures 72 in the side walls 61, the heated air or vapors then passing through the apertures 49 to the flue 50 or passing through the openings 47 into the passage 44 and thence through the tubes 90. The heated air and burnt gases produced by the burners 33 either pass through the apertures 49 to the flue 50 or pass through the openings 47 into the passage 44 and thence through the tubes 90 of the burners 23. The burnt gases produced by the burners 23 preferably flow through the apertures 54 into the passage 51 and thence to the flue 50 by way of the passage 55.

The operation of the improved burners 23 and 33 is substantially as follows: Gas under pressure is fed to the annular chambers 92 through the pipes 99. As this gas passes out of the upper end of the annular chamber passage 92 it mixes with air flowing from the apertures 85 and the tube 90 and combustion takes place, the burner having been previously lighted. The air flowing from the chambers 83 through the apertures 85 is mixed with some gas which flows into the chambers 83 by way of the bores 98[a]. This gas will burn as it leaves the apertures 85 and will assist in causing a draft in the pipe 96.

Obviously, the top 14 of the improved gas stove may be used for cooking, frying and broiling. The ovens 27 and 28 may be used for baking, roasting and for heating food. The improved stove is relatively inexpensive to operate and is exceedingly convenient.

Having thus described our invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of our invention; hence we do not wish to be understood as limiting ourselves to the exact form, construction, arrangement and combination of parts herein shown and described or uses mentioned.

What we claim as new and desire to secure by Letters Patent is:

1. A stove comprising a housing, an oven disposed within the housing, a burner beneath the oven, a second burner disposed above the oven, an air intake pipe having

connection with said second burner and a passage extending upward to the top of the housing for supplying air to the said air intake pipe.

2. A stove comprising a housing having a top wall, a chamber formed partly by the top wall, a burner in the chamber, a passage extending upward to the chamber for supplying air to the burner and a tubular member connecting said passage to the burner.

3. A stove comprising a housing, an oven disposed within the housing, a burner arranged above the oven, an air intake pipe having connection with the burner, and a passage extending from the bottom of the stove upwardly along one side of the oven and having direct communication with the air intake pipe of the burner.

4. A stove comprising a housing having a top wall, a chamber formed partly by the top wall, a burner in the chamber, an air intake pipe connected with the burner, a passage extending upwardly from the bottom of the housing and communicating with the air intake pipe of the burner, a second passage at one end of the chamber having apertures forming connection between the chamber and passage, and a flue communicating at one end with the last-mentioned passage.

5. A stove comprising a housing having a top wall, a chamber formed partly by the top wall, a vertical partition in the housing forming compartments, an oven arranged in each compartment, a horizontal partition in the housing above said ovens and closing the upper side of said compartments, burners supported above the horizontal partition, and means forming communication between the compartments and the burners.

6. A stove comprising a housing having a top wall, a chamber formed partly by the top wall, an oven in said housing, a horizontal partition in the housing above the oven having apertures therethrough, a U-shaped member arranged upon the partition and in communication with the apertures, and burners mounted upon the U-shaped member in the chamber beneath the top wall and having communication with the interior of the U-shaped member.

7. A stove comprising a housing having a top wall, a chamber formed partly by the top wall, a burner in the chamber, an air intake pipe connected with the burner, a vertical passage communicating with the air intake pipe of the burner, a horizontal partition in the housing below said burner, an oven in said housing and disposed below said partition, and means forming communication between said lower part of said housing and said burner.

8. A stove comprising a housing, a chamber in the upper part of said housing, a burner in said chamber, a passage having apertures forming connection with said chamber, a flue communicating with said passage, an oven in said housing and disposed below said chamber, and means for forming communication between said lower part of said housing and said burner.

9. A stove comprising a housing, an oven disposed within said housing, a horizontally disposed partition in said housing above said oven, a chamber above said partition, a burner in said chamber, means forming communication between the part of said housing below said partition and said burner, a flue and means for connecting said chamber with said flue.

10. A stove comprising a housing, an oven disposed within said housing, means for heating said oven, a chamber above said oven, a burner in said chamber, means forming communication between said housing and said burner, a flue, means forming communication between said housing and said flue, a passage extending from the bottom of the stove upwardly and adjacent said oven, tubular means for connecting said passage with said burner and means for connecting said chamber with said flue.

In testimony whereof, we have hereunto signed our names.

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CHRISTIAN EVENSEN.