O. C. SYVERTSEN.

GAS STOVE.

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1,088,849. Patented Mar. 3, 1914.

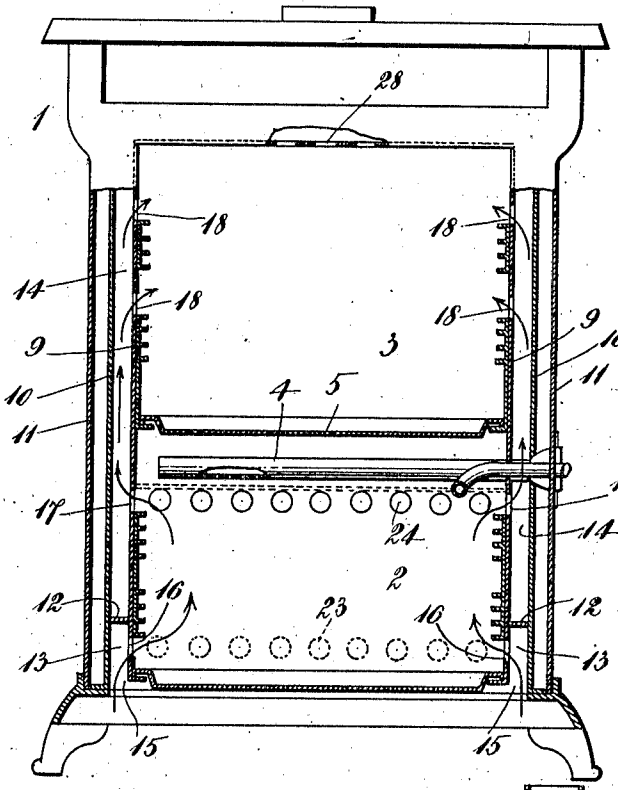

Fig. 1.

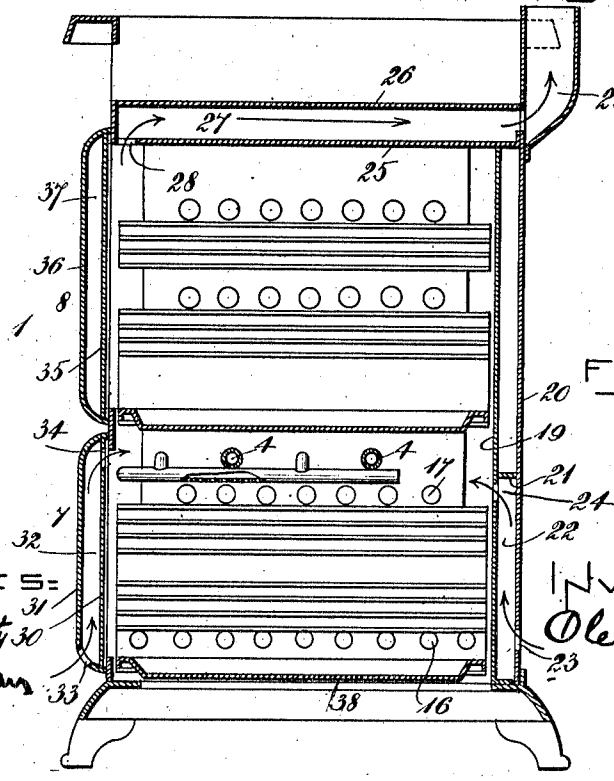

Fig. 2.

WITNESSES:

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GAS-STOVE.

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To all whom it may concern:

Be it known that I, OLE C. SYVERTSEN, of Taunton, in the county of Bristol and State of Massachusetts, a citizen of the United States, have invented new and useful Improvements in Gas-Stoves, of which the following is a specification.

My invention relates to improvements in gas stoves, and especially to a stove having a burner chamber or one that can be used for broiling, and an independent bake chamber or oven.

Among the essential objects of my invention is to so construct a stove of the above character that a free, though properly retarded circulation of hot air will be effected throughout the chambers of the stove and passages connecting therewith; that air directed into the burner chamber and highly heated therein may issue therefrom and be directed into the bake chamber or oven, and will be retained to maintain therein a proper high degree of temperature; to provide also for a preliminary heating of the air directed into the burner chamber and to provide also for the retention of heat in both chambers by means of a circulation of hot air throughout the walls surrounding and forming the respective chambers or by the retention of hot air therein acting as an insulating means for the conservation of heat within the respective chambers.

My invention can best be seen and understood by reference to the drawings, in which—

Figure 1 shows the stove partly in front elevation but mainly in section. Fig. 2 is a cross vertical section of the stove.

Referring to the drawings:—1 represents the stove having formed therein the respective chambers 2 and 3. Of these the bottom chamber 2 will hereinafter be referred to as the burner chamber inasmuch as it contains a burner 4 and is used for broiling. The upper chamber 3 is the bake chamber or oven. The respective chambers are separated from one another by a partition or plate 5 connecting with the walls of the stove forming the chambers; while access is had to the same from the front of the stove through doors 7 and 8 respectively, the door 7 closing the burner chamber, the door 8 the oven.

The construction embodying my invention especially pertains to the walls of the stove forming the respective chambers for it is by and through these walls that I am enabled to attain the objects of my invention above referred to.

Referring accordingly to Fig. 1 it will be seen that the side walls of the stove forming the sides of the respective chambers consists of separate spaced plates 9, 10, 11, respectively. Of these plates the plates 9 and 10 form clews at the sides of the stove extending alongside the respective oven and burner chambers therein. The plates 10 and 11 form compartments for containing dead air. Interposed between the plates 9 and 10 are partitions 12. These partitions are located some little distance below the plane of the oven and preferably not far above the plane of the bottom of the burner chamber. The partitions 12 act to divide or separate the space between the respective plates 9 and 10 into separate air containing and flue forming compartments 13 and 14, respectively. Of these compartments the ones 13 extend alongside the burner chamber on either side thereof in the part lying below the partition 12 and at the bottom or lower end 15 thereof are open to the atmosphere. The compartments 13 also connect with the burner chamber by way of openings 16 in the inner plates 9. The compartments 14 extend alongside both of the respective chambers, extending alongside the burner chamber only in the part lying above the partitions 12. The compartments 14 connect with the respective chambers of the stove by way of openings 17 and 18 in the inner plates 9. Of these openings the openings 17 are in the upper portion of the burner chamber and through which openings communication is had from the upper part of the burner chamber into the respective compartments 14. The openings 18 are in that portion of the plate 9 adjacent to the oven by which communication is had from the compartments 14 into the oven.

The wall forming the back of the stove consists of separate spaced plates 19 and 20 respectively. These plates are spaced to provide air spaces at the rear of the respective chambers of the stove. At a point adjacent to the burner chamber the plates are provided with an interposed partition 21 forming with the respective plates and their edge

connections, an air containing and flue forming compartment 22. At a point near the lower end thereof the outer plate 20 is provided with openings 23 affording communication from the outer air into the compartment 22. The said compartment has also communication with the burner chamber through openings 24 in the inner plate 19. These openings 24 are preferably located at a point just below the partition 21 and afford a communication between the compartment 22 and the upper portion of the burner chamber.

The wall of the stove forming the top of the oven chamber consists of the separate spaced plates 25 and 26, respectively, which have closed connection with one another around their respective edges by properly interposed parts forming a portion of the body of the stove and providing an interposed air containing and flue forming compartment 27. At the front of the stove the plate 25 is provided with openings 28 by which communication is had from the oven chamber into the compartment 27. At the rear of the flue forming compartment 27 the stove is provided with an outlet passage 29 affording an outlet from the compartment 27 to the atmosphere. The doors 7 and 8 located at the front of the stove and closing the respective chambers therein are also each preferably provided with separate spaced plates closed around their respective edges to form air containing compartments between them. Of these doors the doors 7 closing the burner chamber consist of the plates 30 and 31, respectively, forming an air containing and flue forming compartment 32 between them. The plate 31 along the bottom edge thereof is provided with openings 33 by which communication is had between the atmosphere and the compartment 32. The plate 30 is provided with openings 34 by which communication is had from the compartment 32 into the burner chamber. These openings 34 are preferably located near the top portion of the burner chamber.

The door 8 which closes the oven or bake chamber is provided with separate spaced plates 35 and 36 closed around their respective edges to form an air containing compartment 37 between them. The bottom of the stove or wall forming the bottom of the burner chamber consists of a plate 38.

In the operation of the stove air will enter at the sides of the stove through the openings 15 at the bottom thereof, thence pass through the compartments 13 and openings 16 into the burner chamber. At the back of the stove air will enter at the point of openings 23 into the compartment 22 and thence pass into the burner chamber through openings 24. At the front of the stove air will enter the compartment formed in the door 7 by way of the opening 33 at the bottom, thence pass upwardly through the compartment 32 and enter the burner chamber through openings 34. The air thus freely delivered to the burner chamber becomes highly heated therein and passes out of this chamber through openings 17 at the sides of the stove, thence proceeds upwardly through the respective compartments 14 and enters the oven through openings 18. The heated air passes out of the oven by way of the openings 28 at the top thereof and into the compartment or flue 27 and thence proceeds through this compartment over the top of the oven chamber to the outlet passage 29 at the back of the stove.

It will be seen also that both the oven and burner chambers are surrounded either by air containing compartments through which heated air is flowing, or in which heated air is retained, thus acting to retain the heat in both chambers and especially that forming the oven. The air will also become more or less preheated before entering the burner chamber, this by reason of the heating of the walls of the flues or compartments between which the air must enter before entering the burner chamber.

What I claim as my invention is:

In a stove of the character described, the combination of an oven chamber having an outlet, a burner chamber and a partition separating said chambers, said chambers being provided with separate spaced walls on either side thereof forming flues open at the bottom to the atmosphere and the inner ones of which walls are provided with openings therein, partitions interposed between said spaced walls dividing said respective flues into upper and lower compartments, the lower one of said compartments connecting with the atmosphere as aforesaid and extending alongside the lower portion of said burner chamber to connect with said burner chamber by a portion of the openings through the inner of said walls, the other and upper of said compartments extending alongside both of said chambers and connecting, respectively, therewith by other of the openings through said inner walls.

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