

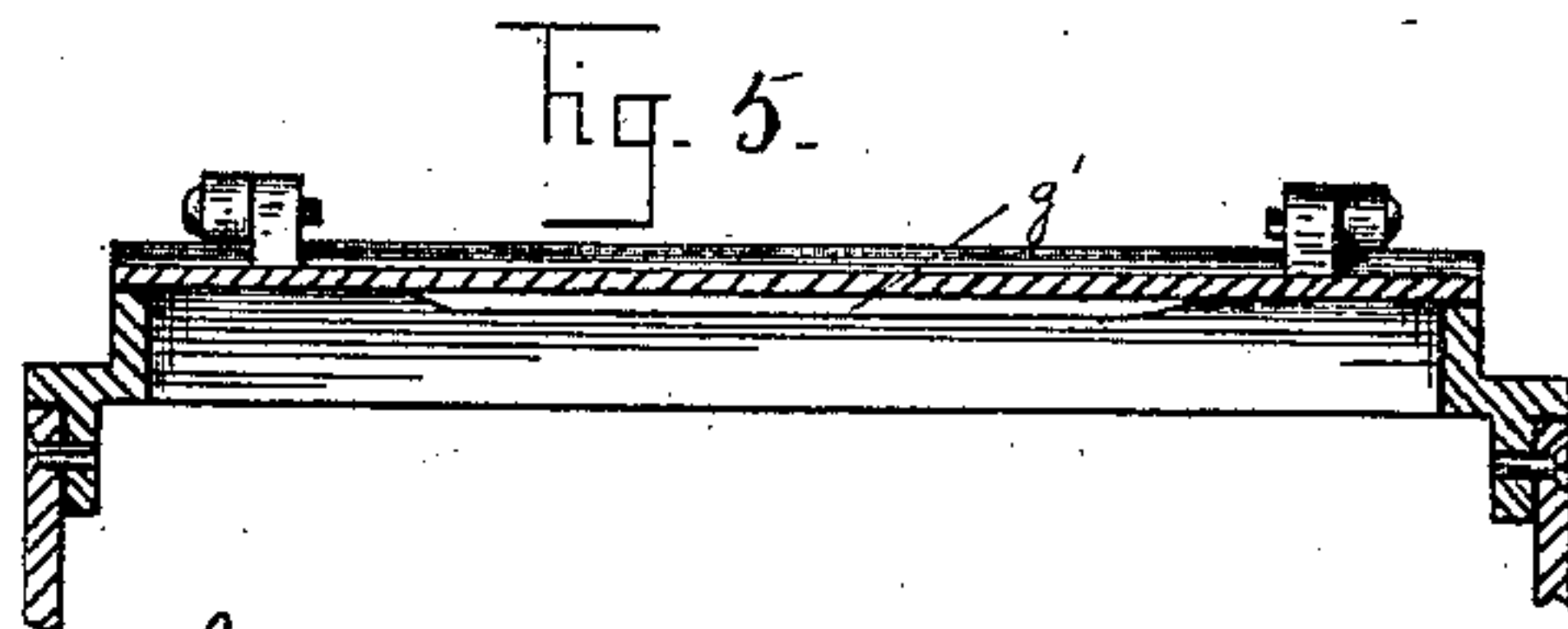
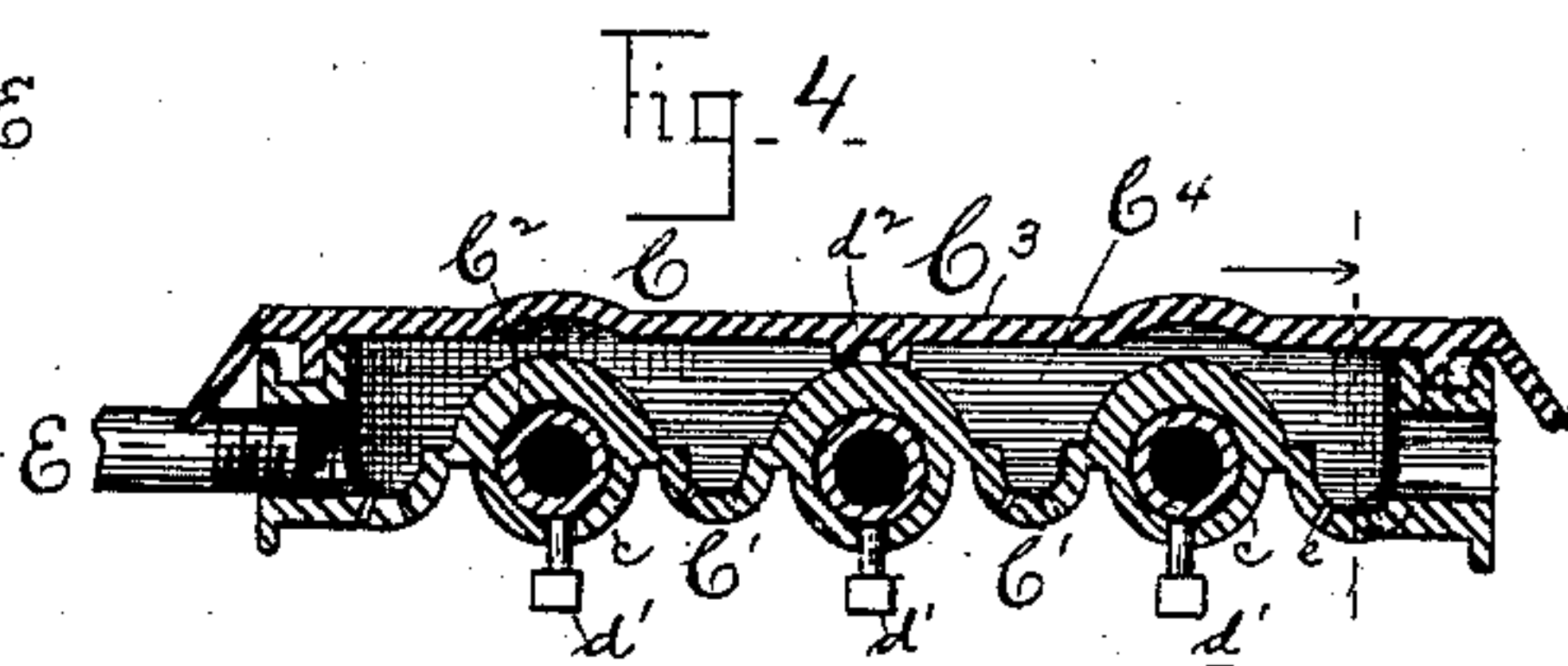
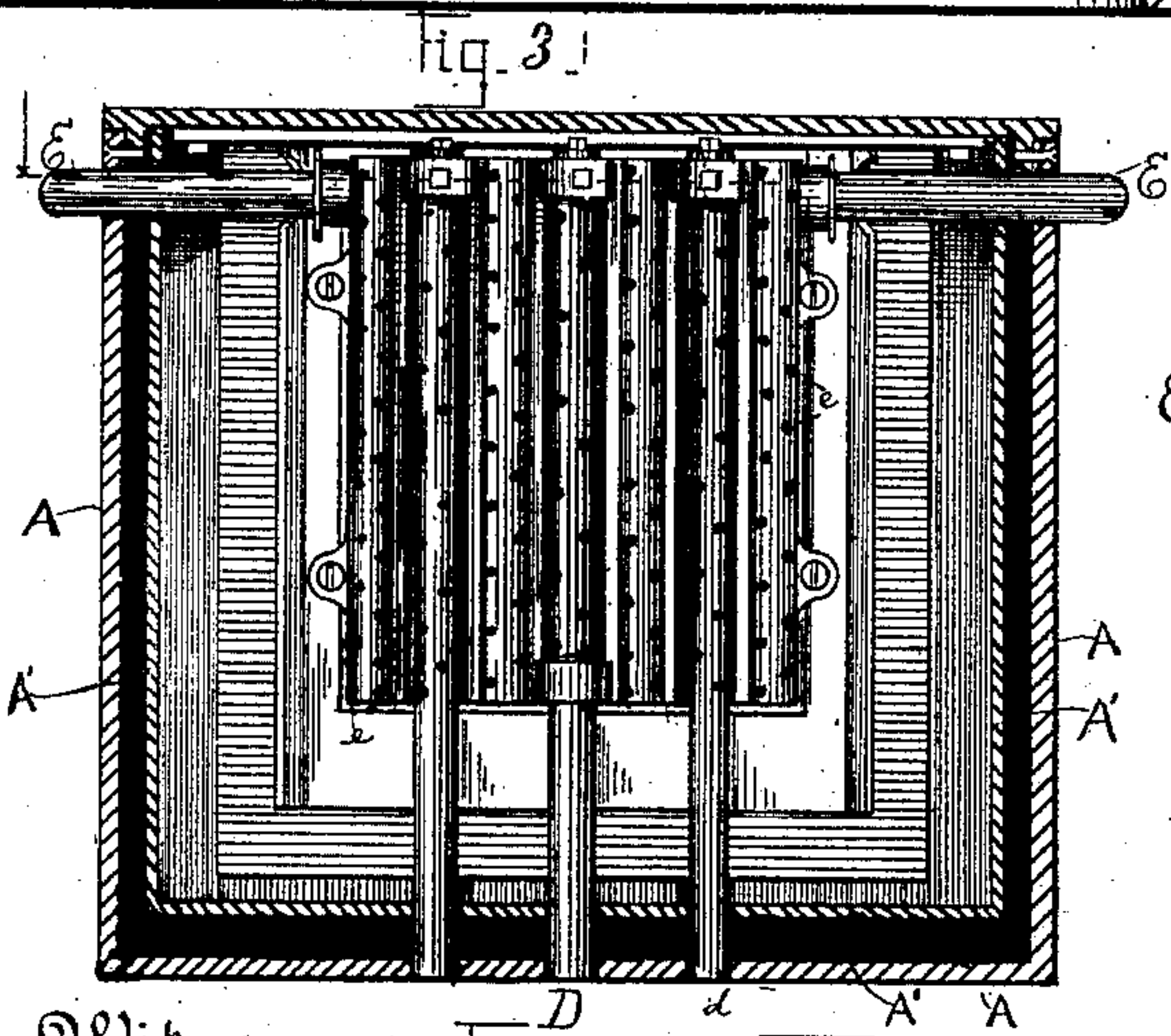
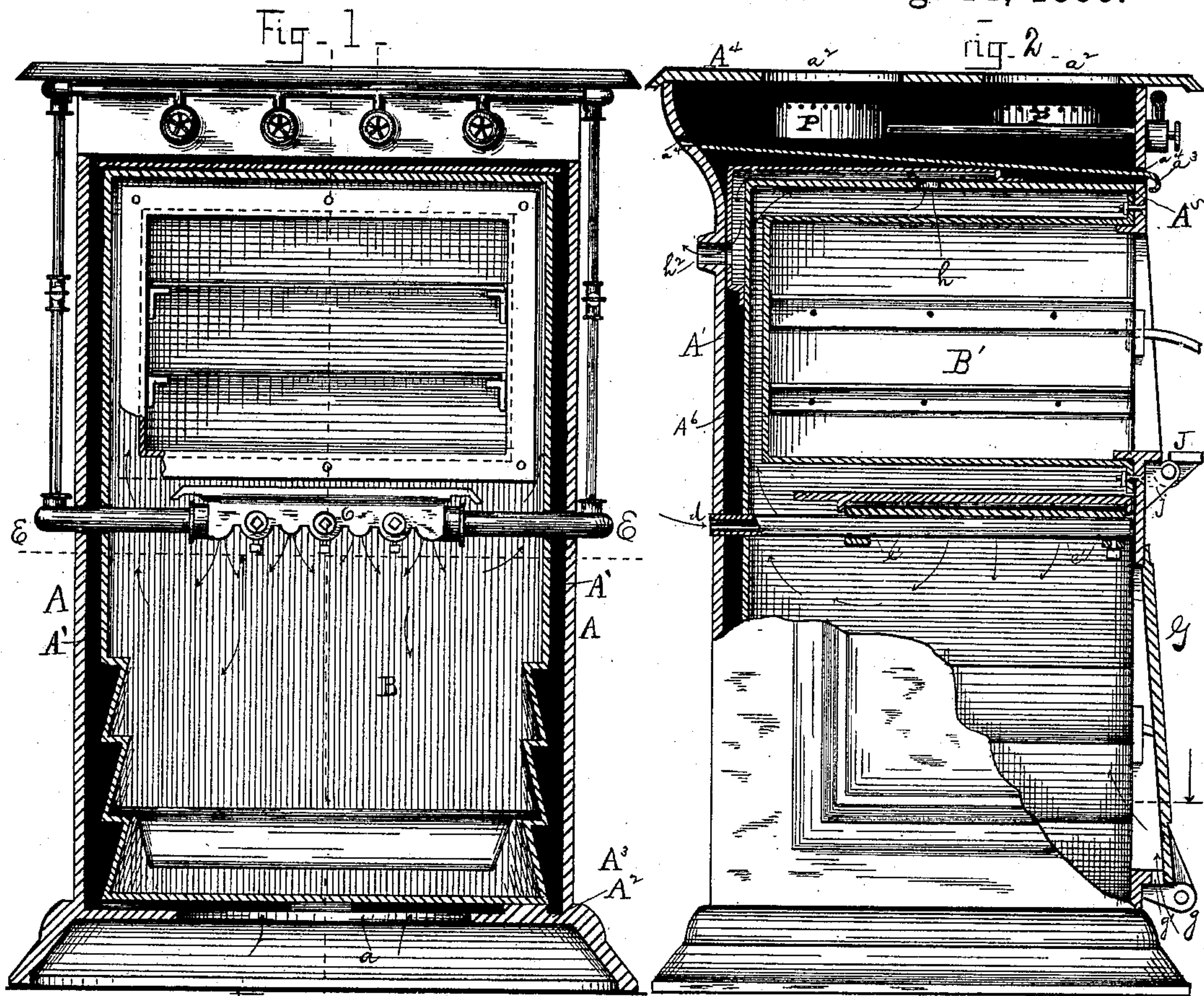
(No Model.)

P. G. VAN WIE.

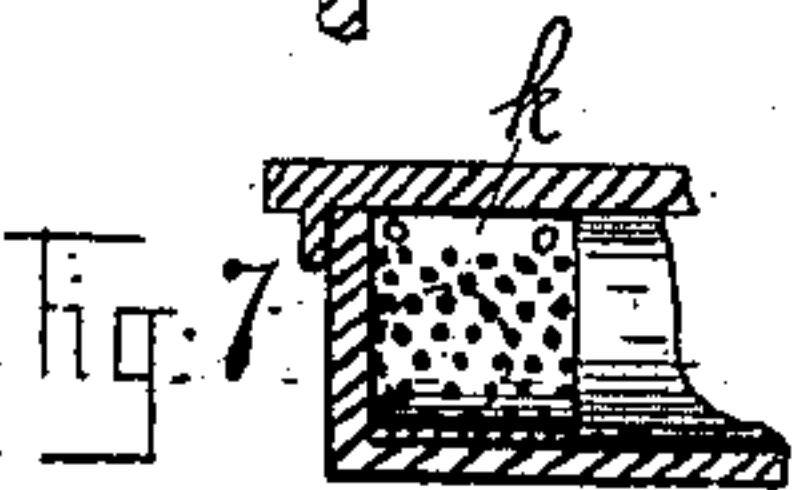
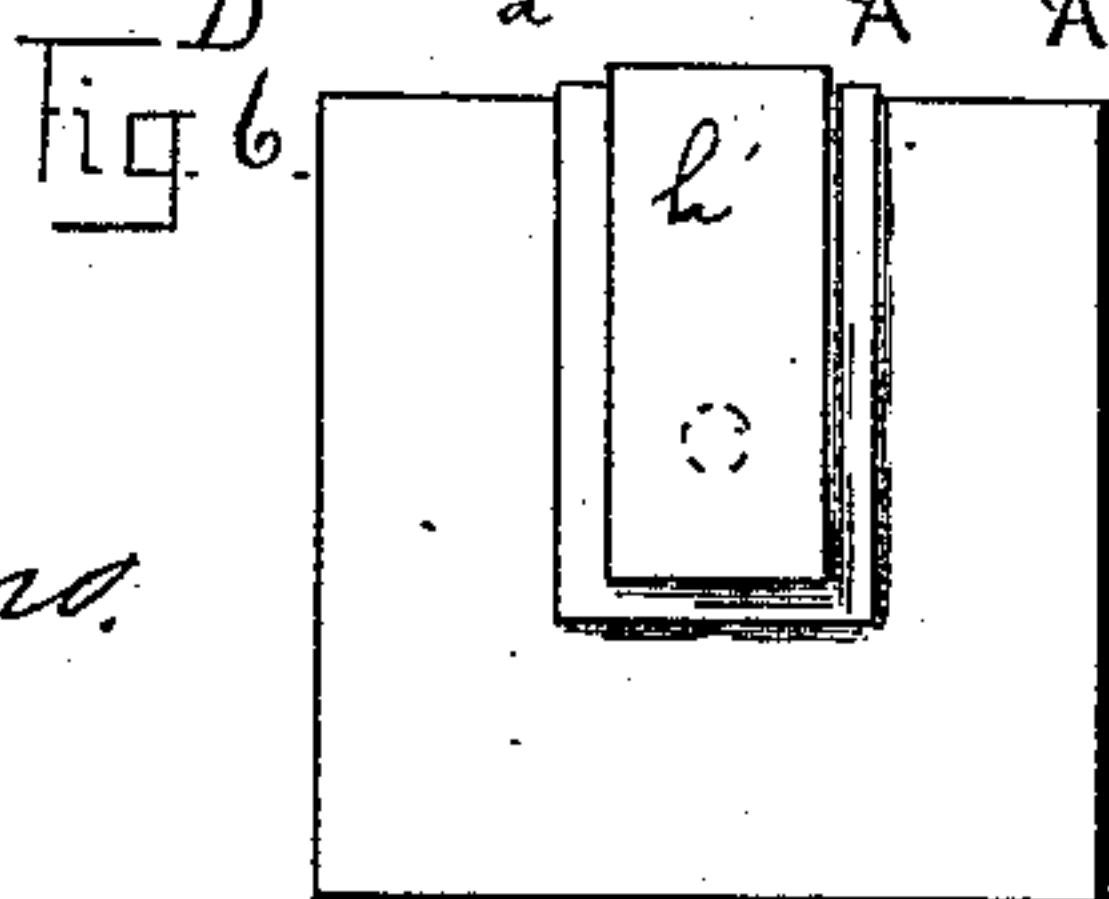
GAS STOVE.

No. 387,666.

Patented Aug. 14, 1888.



Witnesses.
C. B. Wash.
E. J. Olm.



Inventor.
P. G. Van Wie.
By his Attorney
Thos B Hall.

UNITED STATES PATENT OFFICE.

PETER G. VAN WIE, OF CLEVELAND, OHIO.

GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 337,666, dated August 14, 1888.

Application filed August 6, 1887. Serial No. 246,287. (No model.)

To all whom it may concern:

Be it known that I, PETER G. VAN WIE, a citizen of the United States, residing at Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Gas-Stoves; and I do hereby declare the following to be a description of the same, and of the manner of constructing and using the invention in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it appertains to construct and use the same, reference being had to the accompanying drawings, forming a part of the specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle so as to distinguish it from other inventions.

My invention is that of a gas stove in the burner of which I use means for the mixing of currents of gas and currents of air in the process of combustion. To this end I arrange a series of perforated gas-pipes alternately with a series of perforated air-pipes, and so construct and connect them together that they co-operate with each other when used. The perforations of the said connected series of pipes being substantially all in the same horizontal plane with each other, I have a substantially flat structure as the base-plate of my stove. The perforated face of the said plate I locate as the under side, so that the first issue of the flames is substantially vertically downward. The upper unperforated face of the base-plate forms a heating-top. I also provide for the circulation of air between the walls of the stove and the walls of the lower oven, which latter walls I extend up nearly the whole height of the stove. Between the walls of the upper oven and the extended walls of the lower oven I form a flue-passage for the products of combustion of the lower burner, and I also provide for the admission of air near the base of the lower oven and cause it to circulate through said oven into the flue about the upper oven.

Further details of my invention appear in what follows.

In the drawings, Figure 1 is a sectional elevation of the stove, the front being removed. Fig. 2 is a vertical central section of the stove

on the dotted line of Fig. 1. Fig. 3 is a horizontal sectional view of the stove on the horizontal dotted line of Fig. 1, the burner being shown in reverse plan. Fig. 4 is a transverse vertical section of the burner, taken on the dotted line of Fig. 3. Fig. 5 is a detail section of the lower door and air inlet, taken on the dotted line of Fig. 2. Fig. 6 is a detail view of a portion of the air-outlet from the oven. Fig. 7 is a detail section of the gas-inlet pipe and sieve.

The walls A of my stove inclose the oven B. Between the back and side walls, A', of the latter and the back and side walls, A, an air-space is formed, and a similar air-space is formed between the bottoms, respectively, A² A³ of the stove and oven.

The burner C properly defines the upward limit of the oven, but the front, side, and back walls, A', of the same are extended upwardly to near the top A⁴ of the stove, between which top and the top A⁵ of the oven is a continuation of the air-space. An air-inlet, a, is formed in the bottom A², through which the air enters, and passing up through the air-space between the stove and oven walls is emitted through the burner-openings a² of the top A⁴.

Horizontal openings a⁴ are formed in the front and rear upper portion of the walls of the stove, and into said openings and extending from one to the other is inserted the dirt-pan a³ to catch the dirt falling from the burners P, said burners being located intermediate of said dirt-pan and the top of the stove.

Burner C is formed as a chamber, the lower side of which is corrugated. The half-cylindrical crests C' of the corrugations are provided with perforations or jet-orifices e. In the trenches C², between the corrugations, are placed air-pipes provided with similar jet-orifices, e', similarly located. Said pipes are closed at their inner ends and have their outer ends open and flush with one of the walls A, in which they rest and are slipped through half-rings e, that spans said trenches at the extremities of the corrugations, and are secured in place by means of the set-screws d'. An upper plate, C³, is secured to the lower corrugated plate by any suitable means, and intermediate of the two is formed the gas-space C⁴, divided by partition d² into two equal parts. The gas enters through

gas-inlet pipes E, flows to all the crests C' of the series, and passes out of the jet-orifices *e* formed along the longitudinal surface of said crests. Said orifices *e e'* in crests C' and pipes
 5 D, respectively, are placed somewhat close down near the line where the alternate crests and pipes most nearly approach each other, and they converge somewhat in diametric direction toward each other. The number of
 10 orifices in the air-pipes may tally in number with those in the crests, and said gas-orifices and air-orifices are preferably located opposite to each other.

Pipes D are removable by removing set-screw
 15 *d'*, and when in position are used to assist in sustaining the burner C within the stove-frame as the said pipes pass through and rest in the wall of the oven B and the back of the stove, while the gas-inlet pipe, connected at either side
 20 with the burner, passes through and rests in the two side walls of the stove. The burner C, located transversely in a horizontal plane near the center of the stove, practically separates the interior of the stove into the upper and
 25 lower ovens, respectively, B B'.

Hinged to brackets *g*, secured to the lower portion of the stove-front, is the door G opening into the lower oven. A longitudinal slot,
 30 *g'*, parallel with the stove-front, is formed in bracket *g* at the foot of door G. Through this opening air is admitted to the lower oven, B, and aids greatly in the proper cooking of food, particularly meats, which latter it prevents from becoming dry and chippy. The air then
 35 passes up around burner C, where it is joined by the products of the combustion of the gas. The combined product of the two thence passes into the space intermediate of the top, side, and back walls of the upper oven and the top
 40 A⁵ and the extended walls A' of the lower oven, B. These heated gases naturally rise and pass through the opening *h*, formed in the center of the top A⁵, into the pipe *h'* that covers said opening. Said pipe extends backward
 45 along said top A⁵, and thence downward between the back walls, A A', and discharges through the outlet *h*² formed in the upper part of the back of the stove. Thus I have a continuous circulation of hot air on all sides except the front of my upper oven, and by making the outlet-opening *h* above the center of the top of the oven B compel the heated air coming up the sides to pass over the top in every direction to said outlet. A door, J, is
 55 hinged to bracket *j* at the front of the upper oven and affords access to it.

Across the opening of the gas-inlet pipes E, I place a separator formed of a piece of tin, *k*, having many small openings or perforations,
 60 like a sieve. This is for the purpose of preventing a flame, when I light the burner, from firing or kicking back up into the gas-pipe.

I claim—

1. In a gas-stove burner, the combination
 65 of a gas-chamber provided on its outer side with corrugations, said corrugations provided with jet-orifices, and air-pipes alternating with

the crests of said corrugations and provided with jet-orifices, substantially as set forth.

2. In a gas-stove burner, the combination, 70
 with a chamber provided on one of its outer sides with corrugations and having the crests of said corrugations provided with jet-orifices, of air-pipes located in the valleys between said crests, said air-pipes provided with jet-orifices, 75
 substantially as set forth.

3. In a gas-stove burner, the combination, with a gas-chamber having one of its outer sides provided with corrugations, the crests of said corrugations provided with jet-orifices, 80
 of air-pipes secured to said chamber and alternating with said crests and provided with jet-orifices, the series of orifices in one crest and its adjacent pipe converging toward each other, substantially as set forth. 85

4. In a gas-stove burner, the combination, with a gas-chamber having one of its outer sides provided with corrugations, the crests of said corrugations provided with jet-orifices, of air-pipes secured in the valleys between said 90
 crests, said pipes provided with jet-orifices, the outer ends of said air-pipes being substantially flush with the outer stove-wall and opening into the outer air, substantially as set forth.

5. In a gas-stove, the combination of rear 95
 and side stove-walls, an oven located within the same, a space intermediate of the rear and side walls, respectively, of said oven and stove, air-inlet openings connecting said intermediate space with the outer air, an inner oven located within said first oven, a space intermediate of the side and rear walls, respectively, of the two ovens, and an outlet-opening located centrally above the top of the inner oven and connected with the air-space between the 105
 two ovens, substantially as set forth.

6. In a gas-stove, the combination of a burner provided on its lower side with corrugations and having air-pipes alternating with the crests of said corrugations, said pipes and crests each 110
 provided with jet-orifices, an oven located above the same, and a flue passing around a portion of said oven and having its outlet centrally above said oven, substantially as set forth. 115

7. In a gas-stove, the combination of a burner having alternate gas and air orifices, a primary oven within which it is located, and a secondary oven located within the extended wall of the primary oven, flue-passage being formed intermediate of said wall and secondary oven, 120
 the wall of said primary oven being provided with air-inlet and air-outlet openings, respectively, on opposite sides of said secondary oven, substantially as set forth. 125

8. In a gas-stove, the combination of a primary oven extending from the bottom to near the top of the stove, an air-space intermediate of said oven and the rear wall and two side walls of the stove, a burner located substantially midway of the vertical height of said 130
 oven and provided with jet-orifices opening downwardly, a secondary oven located within said primary oven and directly above the

burner, and an air-space intermediate of the side walls, respectively, of said two ovens, substantially as set forth.

9. In a gas-stove burner, the combination
5 of a gas-inlet pipe, a gas-chamber provided with perforations, an air-pipe provided with perforations and lying contiguous to said gas-chamber, and a separator provided with perforations located intermediate of said gas-in-
10 let pipe and said air-pipes, substantially as set forth.

10. In a gas-stove burner, the combination
15 of a gas-chamber provided on its lower side with corrugations and having perforations in the crests of the same, air-pipes provided with perforations and alternating with said crests, a gas-inlet pipe opening into said chamber,

and a separator provided with perforations located across the discharge-opening of said gas-inlet pipe, substantially as set forth. 20

11. In a gas-stove, the combination, with a series of gas-pipes having one or more gas-discharge outlets, of an air-pipe located parallel with and in proximity to said gas-pipes and having one or more discharge-outlets, the
25 air-inlet opening of said air-pipe being flush with the stove-wall, substantially as set forth.

In testimony that I claim the foregoing to be my invention I have hereunto set my hand this 4th day of August, A. D. 1887.

PETER G. VAN WIE.

Witnesses:

E. J. CLIMO,
J. B. FAY.