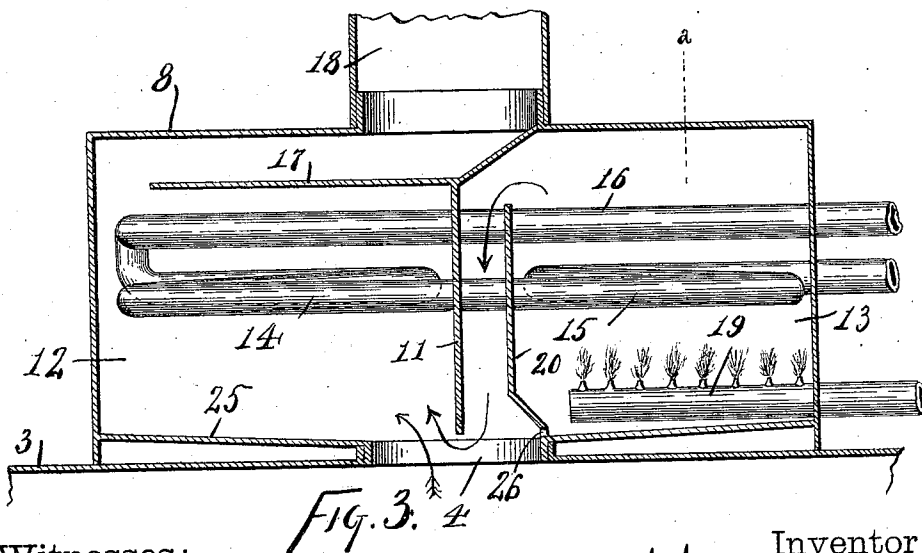
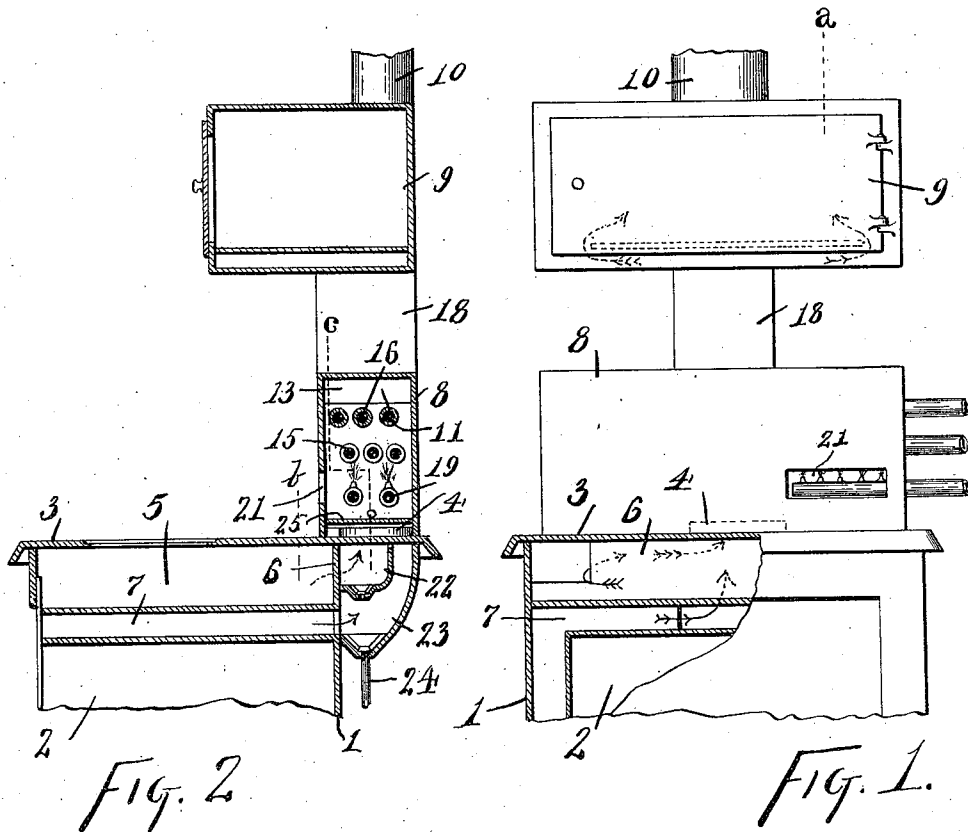


(No Model.)

L. KAHN.
GAS STOVE.

No. 577,513.

Patented Feb. 23, 1897.



Witnesses:

E. R. Shipley
C. M. Shuckman

Sazard Kahn Inventor
by *James M. See* Attorney

UNITED STATES PATENT OFFICE.

LAZARD KAHN, OF HAMILTON, OHIO, ASSIGNOR TO F. & L. KAHN & BROS.,
OF SAME PLACE.

GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 577,513, dated February 23, 1897.

Application filed January 11, 1895. Serial No. 534,519. (No model.)

To all whom it may concern:

Be it known that I, LAZARD KAHN, of Hamilton, Ohio, have invented certain new and useful Improvements in Gas-Stoves, of which the following is a specification.

This invention pertains to gas-stoves, and will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a front elevation of a gas-stove exemplifying my invention, a portion appearing in vertical section in the plane of line *b* of Fig. 2; Fig. 2, a vertical section of the same in the plane of line *a* of Figs. 1 and 3, and Fig. 3 a vertical section in the plane of line *c* of Fig. 2.

In the drawings, 1 indicates the body of a gas cooking-stove of ordinary construction; 2, the oven thereof; 3, the usual top of the stove; 4, the usual pipe-collar at the rear of the top to pass the products of combustion from the stove to the chimney; 5, the usual burner-space at the top of the stove under the top plate 3; 6, the back plate forming the rear wall of this burner-space, this wall being interrupted at its ends, so that the hot products of combustion from the burners in space 5 will be required to pass endwise around wall 6 in finding their way to the outlet at the pipe-collar; 7, the flue over the oven by means of which the hot products of combustion from the oven-burners pass over the oven and out to the pipe-collar, the rear wall of this flue being open at the center to compel the hot products to move inwardly over the oven in seeking an outlet; 8, a water-heater casing sitting upon the top of the stove over the pipe-collar and receiving the hot products of combustion therefrom; 9, a warming-oven connected with the stovepipe above the casing 8 and receiving the heated products from the casing 8; 10, the stovepipe-outlet from the warming-oven 9; 11, a vertical transverse partition in the casing 8; 12, a water-heating compartment formed in the casing at one side of this partition; 13, a water-heating compartment formed in the casing of the other side of the partition; 14, a water-heating coil disposed in chamber 12; 15, a water-heating coil disposed in chamber 13; 16, a water-heating coil crossing the partition 11 and disposed part in each of the two chambers; 17, a baffle-plate

in chamber 12 over the heating-coils and compelling the hot products reaching chamber 12 from pipe-collar 4 to traverse the chamber endwise on their way to the outlet toward the warming-oven; 18, stovepipe connection from chamber 12 to the warming-oven; 19, a gas-burner disposed in chamber 13 under the heating-coils therein; 20, a partition in chamber 13 forming, with partition 11, an outlet-flue leading from the top of chamber 13 to the base of chamber 12; 21, opening in the wall of chamber 13 to provide burner 19 with air of combustion; 22, back flue to the rear of burner-space 5, placing that burner-space in communication with pipe-collar 4, the floor of this flue being depressed and having a drip-outlet; 23, back flue placing oven-flue 7 in communication with the pipe-collar 4, the floor of this back flue being disposed below the floor of flue 22 and being depressed and having a drip-outlet; 24, a drip-pipe from the depressed floor of flue 23; 25, the floors of the chambers 12 and 13, sloping toward the pipe-collar, and 26 a drain-opening in the base of partition 20.

In attempting to heat water by the waste products from a gas-stove the heat may not be sufficient for the purpose. It has been proposed to add an auxiliary water-heating burner to the water-heater to aid the hot products of the stove in doing the water-heating work, but in practice it has been found that such auxiliary burner will not behave satisfactorily in an atmosphere formed by the waste gases of the stove. I therefore provide a water-heater to utilize the waste products of the stove, and I provide a second water-heater in a distinct compartment and provided with an auxiliary burner. In the illustration the two separate water-heating compartments are shown side by side merely as an example.

In Fig. 3 the waste gases from the stove come from pipe-collar 4 and pass through chamber 12, acting on the heating-coils therein, and pass thence to the warming-oven on their way to the chimney. If the heat thus obtained is insufficient, then burner 19 may be lighted, the heat from that burner acting on the water-heater in chamber 13, the burner working in an atmosphere untainted by the waste gases from the stove. The hot prod-

ucts from burner 19, after acting on the water-heater in chamber 13, are drawn into chamber 12, where they join with the waste gases of the stove in acting on the water-heater in chamber 12 and then pass onward to the warming-oven and chimney. The water-coils in the two chambers may of course be entirely distinct or they may be connected together in series, or the coils may occupy both chambers in common. In the illustration, 14 and 15 represent separate heating-coils in the two chambers, but joined together in series, while coil 16 traverses both chambers in common.

15 The action of the hot products on the water-heaters results in the condensation of the water in the gases. This condensed water falls to the sloping floors 25 and flows thence down into the pipe-collar and to the draining-floors of flues 22 and 23 and out through drain-pipe 24.

It is to be noticed that the entire superstructure above the top 3 of the stove may, if desired, be removed by being lifted off of the stove-top, thus permitting the stovepipe to connect, as usual, direct with the pipe-collar 4 if the water-heater is not desired.

25 Numerous modifications may be made in the construction without departing from the novel principles of the invention.

30 I claim as my invention—

1. In a gas-stove, the combination with a chamber disposed beyond and connected with the outlet of the stove and adapted to receive the waste gases therefrom and pass them to the stovepipe, of a water-heating coil disposed in said chamber, a second chamber in juxtaposition to said first chamber having a water-heating coil therein, a gas-burner located in the second chamber under the water-heater, an air-inlet to the second chamber, and a flue connecting the chambers, whereby the hot products from the gas-burner

after heating the coils in the second chamber pass on to the first chamber and mingling with the waste gases from the stove assist in heating the coils in said first chamber. 45

2. In a gas-stove, the combination, substantially as set forth, of a chamber disposed beyond and connected with the outlet of the stove and adapted to receive the waste gases therefrom and pass them to the stovepipe, a water-heating coil in said chamber disposed beyond said outlet, and a second chamber having an air-inlet, and having a waste-gas diving-flue leading to the first chamber, a water-heating coil in the second chamber, and a gas-burner in the second chamber under the water-heater therein. 50 55

3. The combination with a primary heater, as a stove, of a chamber adapted to receive the products of combustion therefrom, a second chamber containing an auxiliary heater, water-circulating pipes in both chambers, a flue opening from the second chamber into the first-named chamber below the water-circulating pipes therein, and an outlet-opening in the first-named chamber for the products of combustion. 60 65

4. The combination with a stove, and a chamber adapted to receive the products of combustion therefrom, of a water-circulating pipe in the chamber, an auxiliary heater removed from, but arranged to discharge its products of combustion into, the chamber below the pipe, and a baffle-plate above the pipe, extending adjacent to the end of the chamber farthest from the auxiliary burner, whereby the products of combustion therefrom will be forced to traverse the entire length of the chamber and in the immediate vicinity of the pipe. 70 75 80

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Witnesses:

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SAM D. FITTON, Jr.