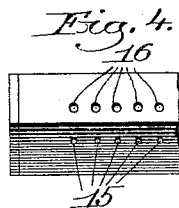
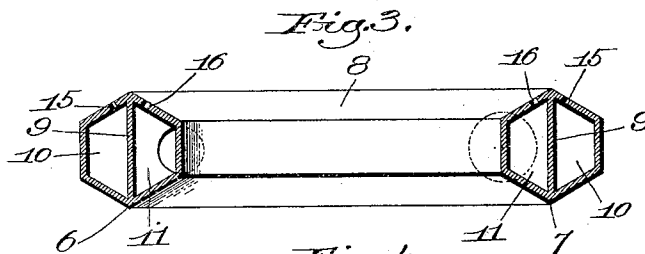
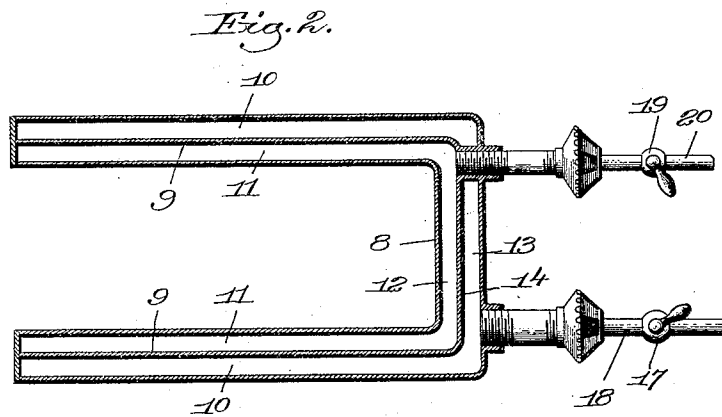
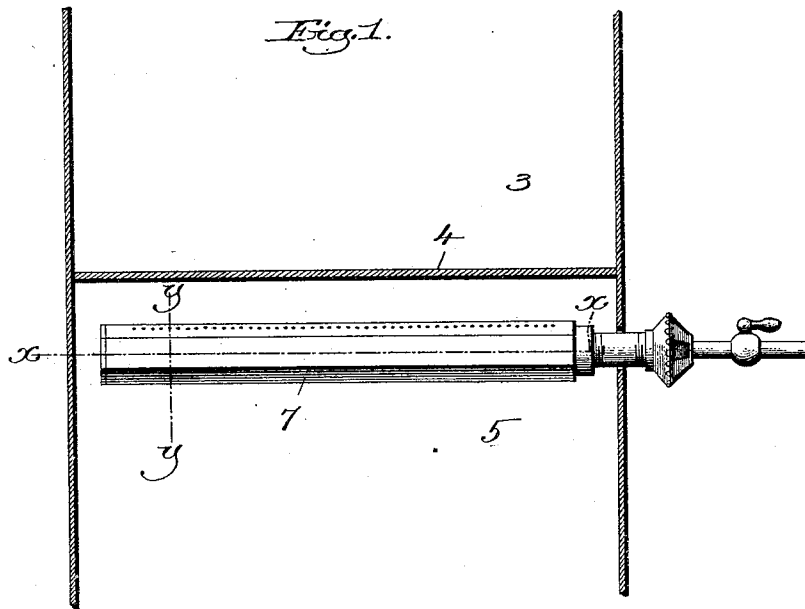


No. 822,932.

PATENTED JUNE 12, 1906.

C. ENNIS.
BURNER FOR GAS RANGES.
APPLICATION FILED MAY 3, 1905.



Witnesses:
Fred S. Grunlop.
J. William Lutton.

Traverdon.
Charles Ennis,
by Lerby Gregory, attys.

UNITED STATES PATENT OFFICE.

CHARLES ENNIS, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO FRANK L. GOLDING, OF BOSTON, MASSACHUSETTS.

BURNER FOR GAS-RANGES.

No. 822,932.

Specification of Letters Patent.

Patented June 12, 1906.

Application filed May 3, 1905. Serial No. 258,712.

To all whom it may concern:

Be it known that I, CHARLES ENNIS, a citizen of the United States, and a resident of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Burners for Gas-Ranges, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In most gas-ranges two burner-tubes are employed for heating the oven, and in all gas-ranges of this class with which I am familiar each burner-tube is controlled by a separate valve, so that the gas may be admitted to either or both of the tubes as desired. One objection to this arrangement is that when the valve to either burner-tube is closed the flame issues from the other burner-tube only and the heat is applied to one side of the oven. I have improved this construction by providing each of the two burner-tubes with a longitudinal partition which divides each tube into two compartments and by providing a plurality of burner-openings leading to each compartment of each tube and by further providing means whereby the gas may be admitted to one or both compartments of each tube as desired.

In a burner embodying my invention whenever gas is admitted to both compartments of each burner-tube the maximum amount of heat is developed; but if it is shut off from one compartment of each burner-tube a less degree of heat is produced, but said heat is evenly distributed over the bottom of the oven.

I preferably will make the burner-openings leading to one compartment of each tube larger than those leading to the other compartment, and by using either set of burner-openings or both sets various degrees of heat can be secured.

Figure 1 is a vertical section through a portion of a gas-range, showing my burner applied thereto. Fig. 2 is a section on the line $x x$, Fig. 1. Fig. 3 is a section on the line $y y$, Fig. 1. Fig. 4 is a top plan view of a portion of one burner-tube.

3 designates the upper oven of an ordinary gas-range, 4 the bottom of the oven, and 5 the lower oven, within which the oven-

burners are located. These parts are or may be of any suitable or usual construction.

My improved burner comprises two burner-tubes 6 and 7, which preferably are connected by a cross-piece 8. Each burner-tube has extending longitudinally thereof a partition 9, which divides it into two compartments 10 and 11. The cross-piece connection 8 is also divided into two compartments or passages 12 and 13 by a suitable partition 14, the passage 12 connecting the two compartments 11 and the passage 13 connecting the two compartments 10.

15 designates burner-openings leading into the compartments 10, and 16 other burner-openings leading into the compartments 11.

It will be seen from the above description and from the drawings that the connected compartments 10 are entirely separate from the connected compartments 11, and therefore that gas admitted to either of the compartments 11 cannot pass into the compartments 10, and vice versa.

I have provided means for admitting gas to either or both compartments of each burner-tube, so that either or both sets of burner-openings 15 and 16 may be employed, as desired. The means I have herein shown for accomplishing this purpose comprises a valve 17 in a pipe or conduit 18, leading into the passage-way 13, and another independent valve 19 in a pipe or conduit 20, leading into the passage-way 12. Each of said pipes 18 and 20 is connected to a suitable source of gas-supply.

By opening the valve 17 gas will be admitted to the compartments 10 of the burner-tubes, and similarly by opening the valve 19 gas will be admitted to the compartments 11 of said burner-tubes.

Preferably one set of burner-openings will be larger than those of the other, so that a larger or smaller flame may be produced, depending on which set of burner-openings is used.

In the drawings I have illustrated the burner-openings 16 as being larger than the burner-openings 15.

When the maximum heating capacity of the burner is required, the gas may be admitted to both compartments of each burner-tube. When a moderate heat is required the valve 17 will be closed to shut off the gas

from the compartments 10, the valve still being open to admit gas to the compartments 11, having the larger burner-openings 16.

If a minimum degree of heat is required, the valve 17 will be opened to admit gas to the compartments 10 and the valve 19 closed, whereby gas will be admitted to the compartments containing the smaller burner-openings and a smaller flame produced.

One feature about the invention which I desire to emphasize is that the size of the flame, and consequently the heat generated, may be regulated without cutting down the pressure of the gas by partially closing the controlling-valve, as is usually done in gas-ranges with which I am now familiar.

It will be seen that in my improved construction the size of the flame is determined by the size of the burner-openings and the number of burner-openings which are brought into play, and not by cutting down the gas-pressure by partially closing the valves.

In using my improved burner I propose to have the valves 17 and 19 either entirely closed or entirely open.

The main feature of my invention is a burner-tube divided into two compartments with separate means for controlling the supply of gas to each compartment.

While I have herein shown one embodiment of my invention, I do not wish to be limited thereto, as the shape and arrangement of the parts may be varied in many ways without departing from the invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a burner, two parallel burner-tubes, each divided longitudinally into two separate compartments, one compartment of each burner-tube being connected to the corresponding compartment of the other burner-tube, each burner-tube having two parallel rows of burner-openings, the openings of one row communicating with one compartment and those of the other row communicating

with the other compartment, the burner-openings which communicate with one pair of connected compartments being larger than those communicating with the other pair of connected compartments, and two independent valves to supply gas to the two compartments of each tube respectively.

2. In a burner, two parallel burner-tubes, each divided longitudinally into two compartments, a head or cross piece connecting the burner-tubes and also divided into two compartments which connect with the two compartments of each of the tubes, each burner-tube having two parallel rows of burner-openings, the openings of one row leading into one compartment and those of the other to the other compartment, and the openings of one row of each burner-tube being larger than those of the other, and a valve-supply connection leading to each compartment of the cross-piece.

3. In a burner, a burner-tube divided by a longitudinal partition into two separate compartments, said tube having burner-openings leading to each compartment, the burner-openings leading to one compartment being larger than those leading to the other, and two independent valves to supply gas independently to each compartment.

4. In a burner, two burner-tubes each divided by a longitudinal partition into two separate compartments, said tubes having burner-openings leading to each compartment, the burner-openings leading to one compartment being larger than those leading to the other, and two independent valves to supply gas independently to each compartment.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES ENNIS.

Witnesses:

GEO. W. GREGORY,
LOUIS C. SMITH.