

No. 726,158.

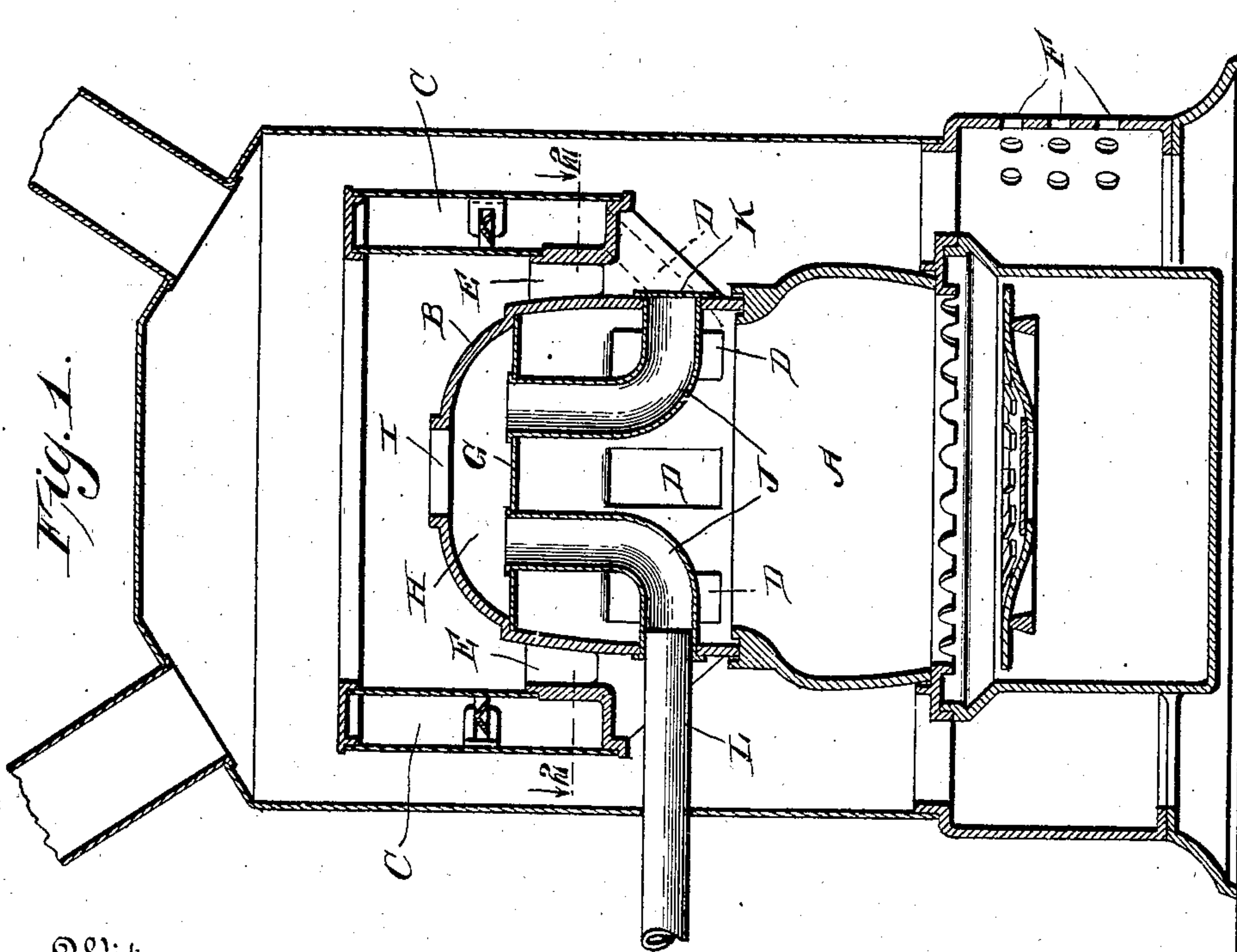
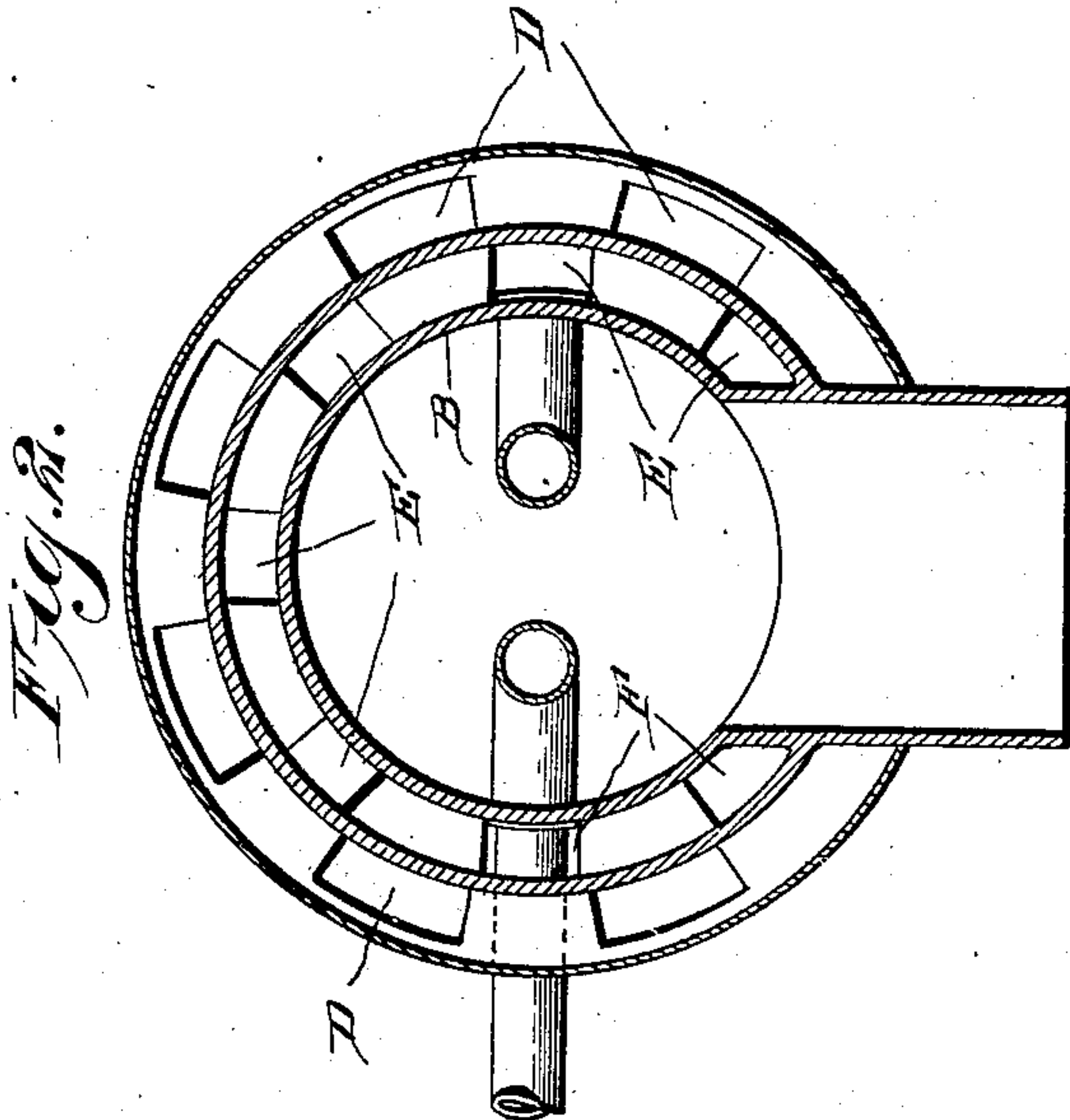
PATENTED APR. 21, 1903.

T. E. GROVER & A. A. BOWE.

HEATER.

APPLICATION FILED MAY 27, 1902.

NO MODEL.



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS E. GROVER AND ALBERT A. BOWE, OF PHILADELPHIA,
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HEATER.

SPECIFICATION forming part of Letters Patent No. 726,158, dated April 21, 1903.

Application filed May 27, 1902. Serial No. 109,135. (No model.)

To all whom it may concern:

Be it known that we, THOMAS E. GROVER and ALBERT A. BOWE, citizens of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Heaters, of which the following is a specification.

Our invention relates to a new and useful improvement in heaters, and has for its object to so construct the dome of the heater over the fire-pot that cold air may be led into the heater and be heated directly over the fire, thus assuring a better flow of heated air through the house.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical section through a heater, showing our improvement applied thereto; Fig. 2, a section on the line 2 2 of Fig. 1.

In heaters of usual construction the cold air from the exterior of the heater enters and flows up outside of the dome and fire-pot directly to the heater-pipes, and for this reason the cold air is generally taken from the cellar and not from the outside, as when taken from the outside of the house it, flowing directly upward into the heater-pipes, will not have sufficient time to become heated, and therefore is liable to reduce the temperature.

A represents the fire-pot. B is the dome, and C is the smoke-passage. The dome is made, as usual, with the openings D leading from the interior of the dome to the smoke-passage C and from there to the smoke-flue, and the usual openings E are left for the cold air to pass upward around the dome, and this cold air is usually taken from the cellar, passing through perforations F, formed through the base of the heater. In our invention we do away with the usual central drum on top

of the dome, through which the products of combustion could pass to the smoke-chamber, and we close the upper portion of the dome entirely by a plate or diaphragm G, thus forming a space H in the upper end of the dome, and from this space leads an opening I through the upper end of the dome, which communicates directly with the heater-pipes. Inside of the dome are arranged two elbow-pipes J, which extend from the exterior of the side of the dome upward through the dome over the fire-bed and enter the space H through the plate or diaphragm G. These elbows extend outward from each side of the dome, and only one is designed to be used at a time, the one not being used being closed by a plate or cover K. With the other one is connected a pipe or duct L, which extends through the shell of the heater to the outside of the house to receive the cool fresh air. Of course the heater could be made with only one of these elbows; but we prefer to use two, so that the cold-air pipe can be connected from either side to accommodate itself to the arrangement of the cellar in which the heater is located. Thus it will be seen that the cold air entering the elbow J directly over the fire-bed will be heated while passing through this elbow, and this air will again be exposed to the heat when passing into the chamber H, as the diaphragm or plate G is directly over the fire-bed, and in this way the furnace will be supplied constantly with fresh cool air, which will be heated to the required degree before passing to the heater-pipes.

Our invention would be of great advantage to heaters, as it is a necessity for the proper working of the heater for the same to be supplied with fresh cool air from the exterior of the house.

Of course we do not wish to be limited to the exact construction here shown, as slight modifications could be made without departing from the spirit of our invention.

Having thus fully described our invention, what we claim as new and useful is—

The combination in a heater, of a fire-pot, a dome located over the fire-pot, passages extending from the dome to the smoke-chamber, a plate or diaphragm extending across the dome dividing it horizontally, leaving a space

between said plate or diaphragm and the upper
end of the dome, the upper end of the dome
being provided with an opening communicat-
ing with the space from which the heater-
5 pipes extend, two elbow-ducts extending from
the space between the plate or diaphragm and
the upper end of the dome vertically down-
ward, and then turning in a horizontal direc-
tion and extending out of the sides of the dome
10 upon opposite sides, one of said ducts adapt-
ed to be closed, a pipe connected to the other

duct and extending outside of the house or
apartment in which the heater is located, sub-
stantially as and for the purpose specified.

In testimony whereof we have hereunto 15
affixed our signatures in the presence of two
subscribing witnesses.

THOMAS E. GROVER.
ALBERT A. BOWE.

Witnesses:

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