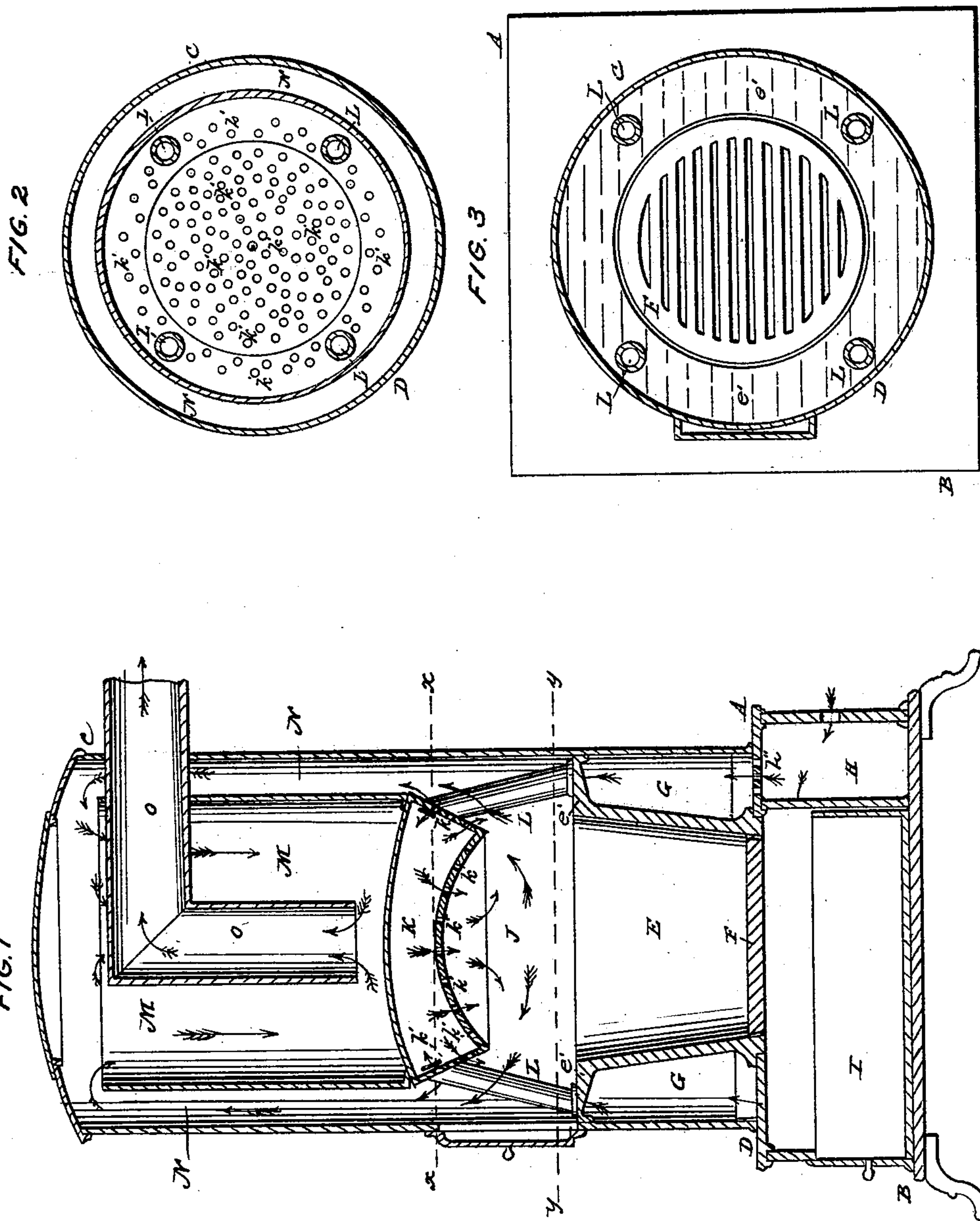


J. H. STONE.
Heating Stove.

No. 66,907.

Patented July 16, 1867.



WITNESSES:
Benj. Morison
James H. Mumford

INVENTOR:
J. H. Stone

United States Patent Office.

JOHN H. STONE, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 66,907, dated July 16, 1867.

COAL-STOVE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN H. STONE, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful improvement in Heat-Radiating Stoves; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical central section of the said improved stove, and

Figures 2 and 3 horizontal sections on the dotted lines *x* and *y* respectively of fig. 1—

Like letters of reference indicating the same parts when in the different figures.

The object of my improvement is to produce a heat-radiating, gas-burning stove, having a better draught and greater effectiveness in the production and radiation of heat, with more simplicity in its construction and consequent ease and cheapness of manufacture.

My invention consists in the peculiar combinations and arrangement of parts, substantially as hereinafter described and specified.

Referring to the drawings, A B is the square base of the stove, and C D the cylindrical body of the same; E, the fuel-pot; F, the grate; G, an air-space surrounding the fuel-pot; H, an air-space surrounding the back and two sides of the ash-drawer I; J, the combustion-chamber; K, a hot-air retort above the fuel-pot, receiving its supply of fresh air through its supporting tubes L L L L, which communicate with the air-spaces G and H; M, a centrally placed vertical hollow cylinder, open at its top only, being closed at its bottom by the top of the retort K, and surrounded by an air-space, N, which communicates with the combustion-chamber J and the interior of the said cylinder; O, the escape pipe, reaching concentrically down nearly to the bottom of the cylinder M; and P, the fuel-door. The fuel-pot E has a flange, *e'*, which extends around its upper end into close contact with the body C D of the stove. The fresh air for starting and continuing the combustion of the fuel in the pot E is introduced in the usual manner, through an opening in the ash-drawer I, or by slightly withdrawing the latter. The fresh air for effecting the combustion of the inflammable gases arising in the combustion-chamber J from the incandescent fuel in the fuel-pot E, enters through the opening *h'* in the side of the base A B into the air-space H, thence through the openings *h''* into the air-space G, thence through the flange *e'* (of the fuel-pot E) and the tubes L L L L, into the heated retort K, and from which latter it is then discharged in numerous slender streams, highly heated, through the perforations *k' k'*, into the combustion-chamber J below, as indicated by the dark arrows in fig. 1. As the hot air enters the combustion-chamber J it inflames the rising inflammable gases and carries the flame upward through the annular space N to the top or open end of the hollow cylinder M, thence downward within the latter to the mouth of the escape pipe O, through which latter the draught then passes upward to the usual chimney-flue, as indicated by the red or faint arrows in fig. 1.

It will therefore be seen that the peculiar curved and perforated construction, as well as the location of the retort, is exceedingly well adapted for highly heating and distributing the required fresh air for supporting the combustion of all the inflammable gases reaching the combustion-chamber J, and that the arrangements for conducting the said fresh air to the retort are such as contribute to its being considerably heated as it passes to the retort, as well as to supply it rapidly; that the cylinder M compels the whole of the heated products of combustion to pass with the draught upward in a thin column in direct contact with the large or extensive radiating portion of the body of the stove; and that the position of the escape pipe O within the cylinder M, and also directly above but not in contact with the retort K, is exceedingly favorable to its being kept hot, and therefore to its causing a strong draught, whether the latter passes through the retort, or through the grate and fuel-pot. The whole construction and arrangement produce a most effective radiating, gas-burning stove; and being simple and easy of construction, the cost of manufacturing is comparatively small.

Having thus fully described my improvement in heat-radiating stoves, what I claim as new therein of my invention, and desire to secure by Letters Patent, is confined to the following, viz:

I claim the extended flange *e'* of the fuel-pot E, in combination with the tubes L L L L, retort K, and air-spaces G and H, communicating with the external air through the base A B; the said parts being arranged to operate together, as described, for the purpose of supplying and heating fresh air for the combustion of the inflammable gases arising from the burning fuel in the fuel-pot E.

I also claim, in combination with the retort K, having tubes L, connecting with hot-air space G, around the fire-pot, the cylinder M, and the escape pipe O arranged within the upper part of the body C D of the stove, substantially in the manner described, for the purpose of diffusing the heat more effectually over the said body of the stove, and also for increasing the draught of the latter as specified.

J. H. STONE.

Witnesses:

BENJ. MORISON.

JOHN WHITE,

JAMES WINSMORE, Jr.