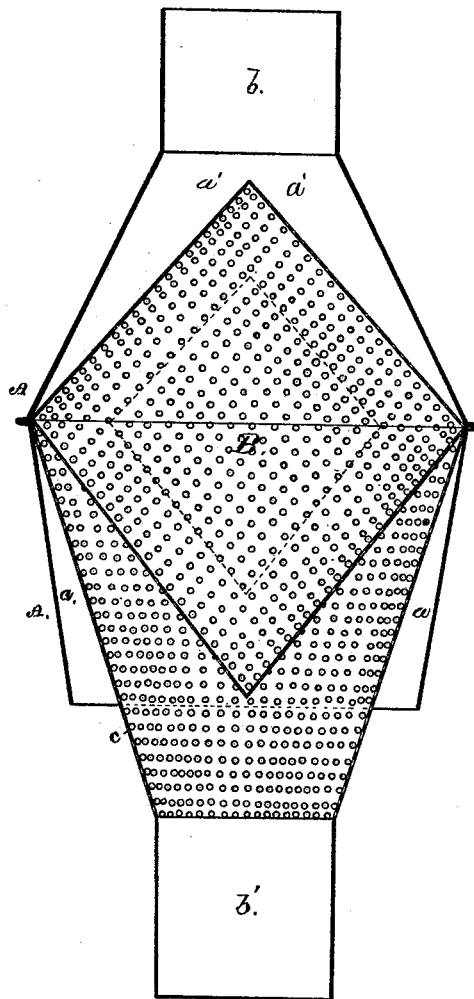


P. MIHAN.

AIR-HEATERS FOR LAMP STOVES.

No. 186,050.

Patented Jan. 9, 1877.



Witnesses.

Geo Gray
S. C. Hale.

Patrick Mihan.

by his attorney
A. P. Hale

UNITED STATES PATENT OFFICE.

PATRICK MIHAN, OF CAMBRIDGEPORT, MASSACHUSETTS.

IMPROVEMENT IN AIR-HEATERS FOR LAMP-STOVES.

Specification forming part of Letters Patent No. **186,050**, dated January 9, 1877; application filed July 21, 1876.

To all whom it may concern:

Be it known that I, PATRICK MIHAN, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Air-Heaters or Ventilators; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

The accompanying drawing denotes a central and vertical section of an air-heater constructed in accordance with my invention.

My invention relates to a device or apparatus to be applied to either a gas or lamp burner, or the chimney or globe thereof, for the purpose of utilizing the heat generated by the burner in heating a room or apartment to better advantage than has heretofore resulted.

In the drawing, A denotes a metallic case, open at top and bottom, the same being formed of two conic frusta, *a a'*, united at their greater bases, the upper one, *a'*, terminating in a short hollow cylinder, *b*. Within the frustum *a*, and extending from its greater base, and downward to some distance from its lower end, is a foraminous conic frustum, *c*, its lower end terminating in a short cylinder, *b'*, corresponding in diameter to the cylinder *b*, before mentioned.

Within the case A is a perforated chamber, B, the same consisting of two cones united at their greater bases, their apices terminating, respectively, near the top and bottom of the case A. If desirable, one or more of these perforated chambers, of a smaller size, may be arranged within the outer one, one of such being shown by dotted lines in the drawing.

I would remark that the case A and the double conic diaphragm may be employed without the frustum *c* and the cylinder *b'* over a gas-burner or chandelier, or series of burners, by suspending the device at its top over the chimney or globe of such burners, such being employed when it is desirable to utilize the light as well as the heat, such arrange-

ment embodying the spirit of my invention, the main feature of which is found in the combination of one or more perforated diaphragms or double conic chambers, B, within the case, so as to most effectually divide, subdivide, and commingle the currents of air in passing through the same.

Having described the construction of my apparatus, its operation is as follows: If we suppose the cylinder *b'* to be placed upon a chimney-supporter of an ordinary kerosene or gas burner, the heated products of combustion within the cylinder will pass up through the same and into the foraminous frustum *c*, and will thereby induce the external currents of air to enter the frustum *c*. Such currents, being deflected, will pass upward and into the body of the conic foraminous chamber B, the currents of heated air imparting more or less of their caloric to the perforated diaphragms as they pass through the same. The colder currents, passing up between the perforated frustum *c* and the foraminous chamber B, will, as they pass into the same, abstract the heat from the metal, and, by being brought into close contact with the divided and minute currents of hot air in passing into and out of the foraminous chamber B, will be better commingled and combined therewith, so as to heat a much greater quantity or volume of air than by devices of this character as heretofore employed.

Having described my invention, what I claim is—

1. The combination of the hollow case A, one or more perforated diaphragms, B, the perforated frustum *c*, and cylinder *b'*, substantially as described.

2. The combination of the perforated foraminous frustums constituting the chamber B, and arranged as described, with the case A, composed of the two frustums, disposed as set forth.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

PATRICK MIHAN.

Witnesses:

F. P. HALE,
F. C. HALE.