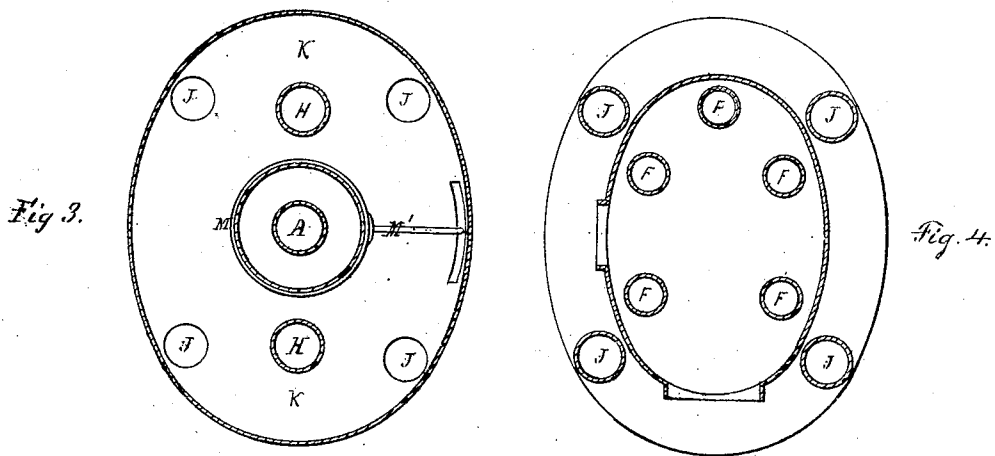
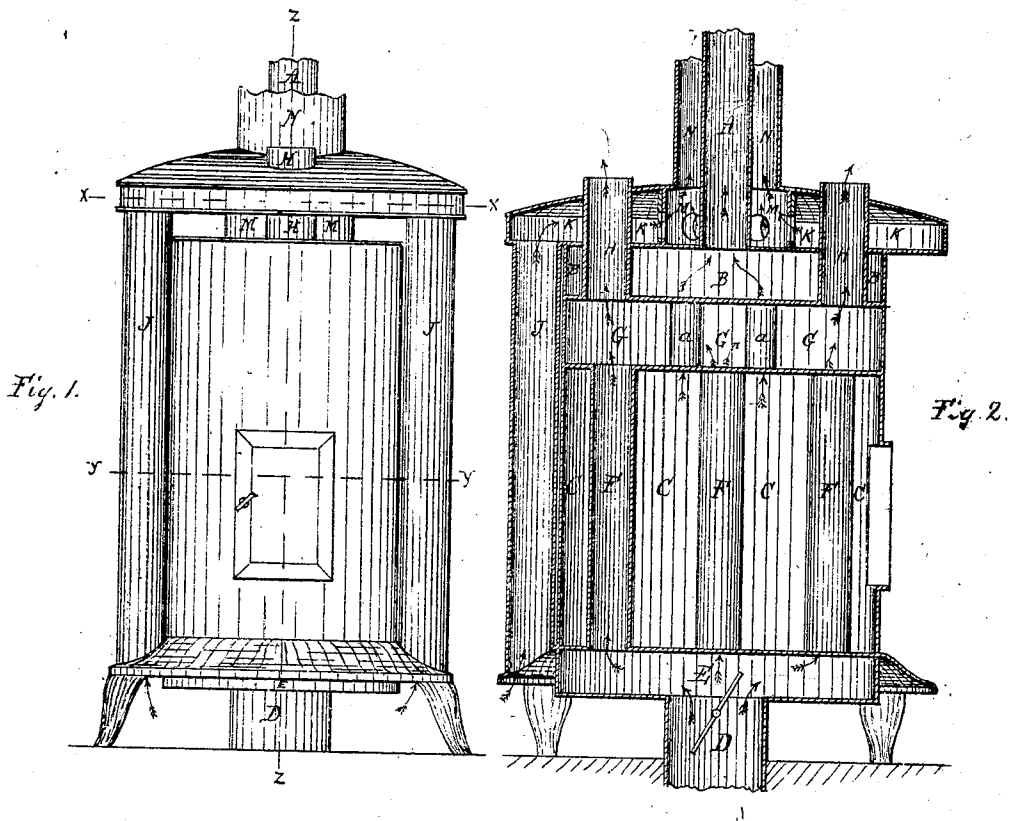


JAMES J. PRENDERGAST.

Heating-Stove.

No. 128,247.

Patented June 25, 1872.



Witnesses.

Chas. F. Steeper.

J. J. Prendergast

Inventor

J. J. Prendergast

UNITED STATES PATENT OFFICE.

JAMES J. PRENDERGAST, OF ST. PAUL, MINNESOTA.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. 128,247, dated June 25, 1872.

Specification describing certain Improvements in Stoves, invented by JAMES JOSEPH PRENDERGAST, of the city of St. Paul, in the county of Ramsey and State of Minnesota.

The principal object of my invention is to heat and to ventilate with economy rooms which, from any cause, are liable to an excess of impure air. It is especially adapted for use in hospitals or school-rooms, in both of which the want of some simple apparatus which would furnish both heat and ventilation has long been felt. Many attempts have been made to overcome the difficulties which exist in rooms that, from their construction, cannot be fitted with hot-air furnaces and the usual ventilating-pipes; but my method is the most perfect of any which has come to my knowledge.

In the drawing, Figure 1 is the end view of a wood-burning stove in which I have embodied my invention; Fig. 2, a section of the same on the line *z z*, the pipe J being shown out of place; Fig. 3, a section on the line *x x*; and Fig. 4, a section on the line *y y*.

I construct my stove with five chambers—viz.: First, a fresh-air chamber, E; second, a fire-chamber, C; third, a hot-air chamber, G; fourth, a smoke-chamber, B; and fifth, a foul-air chamber, K, all being provided with flues, as hereinafter specified.

D is a pipe, which receives fresh or outer air in the usual manner and supplies it to the chamber E, where it is distributed to the flues F, by means of which it passes through the fire-chamber C into the hot-air chamber G, and from thence it is thrown into the room through the pipes H, being heated as it passes through the pipes and chambers.

The fire is built in the chamber C, and the smoke passes up the flues *a* through the hot-air chamber into the smoke-chamber B, from which it is taken to the chimney by means of the fun-

nel A. The impure air is drawn from near the floor into the pipes J and carried to the foul-air chamber K, from which it passes into a flue, N, which surrounds the funnel A; and both A and N are carried into the chimney.

A damper is placed in the fresh-air flue, as shown, and a damper, M, from the chamber K to the flue N. I prefer to make this last damper by casing the flue and perforating both it and the case, as shown; but other forms of damper may be employed.

It is obvious that the fresh air will be thoroughly heated in its passage through the different pipes and chambers, and create a pressure in the upper portion of the room which will, in connection with the heating of the foul-air chamber and its flue, cause the air near the floor to be rapidly drawn up and expelled through the chimney, thus giving a complete circulation of air to the apartment, while the radiation of heat will be the same as that of an ordinary stove.

Instead of using wood for fuel, a simple arrangement would fit the stove for coal and yet preserve all its features.

I have shown in Fig. 1 the foul-air chamber as raised above the hot-air chamber, thus giving more radiating-surface to the stove than that shown in Fig. 2. This might, in some cases, be an advantage; but I prefer the arrangement shown in Fig. 2.

I claim as my invention—

In combination with a radiating-stove, the fresh-air pipes and chambers D, E, F, G, and H and the ventilating pipes and chambers J, K, and N, when the whole are constructed and operated substantially in the manner shown and described.

J. J. PRENDERGAST.

Witnesses:

CHAS. F. SLEEPER,
J. C. PRENDERGAST.