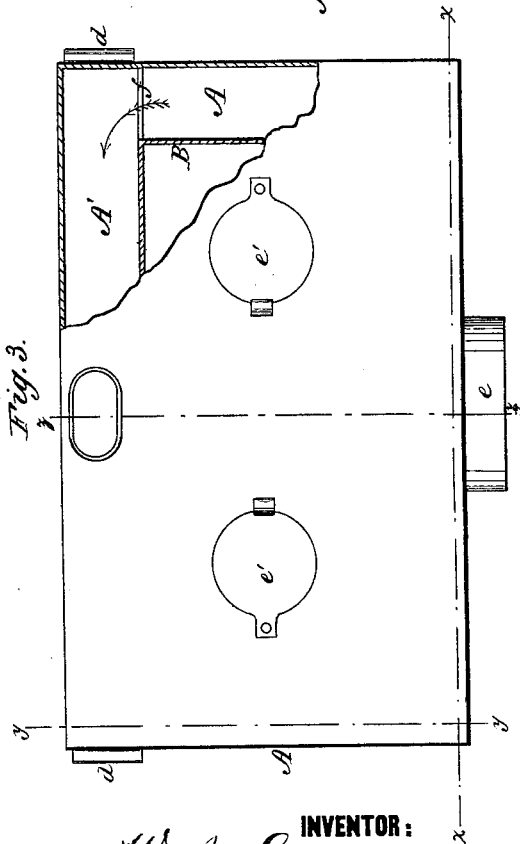
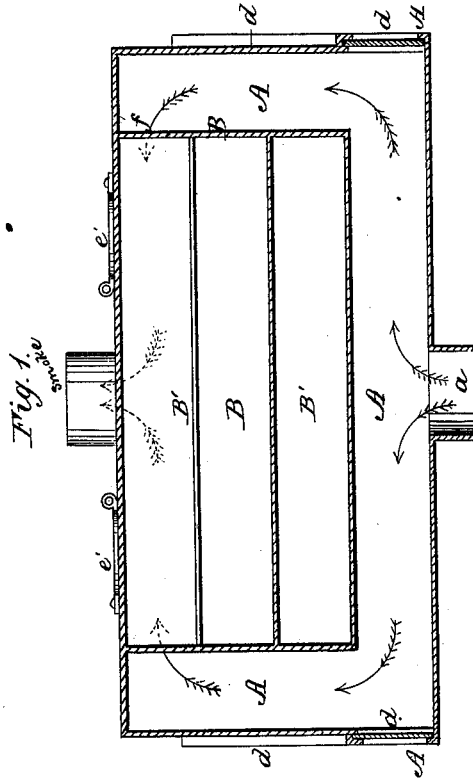
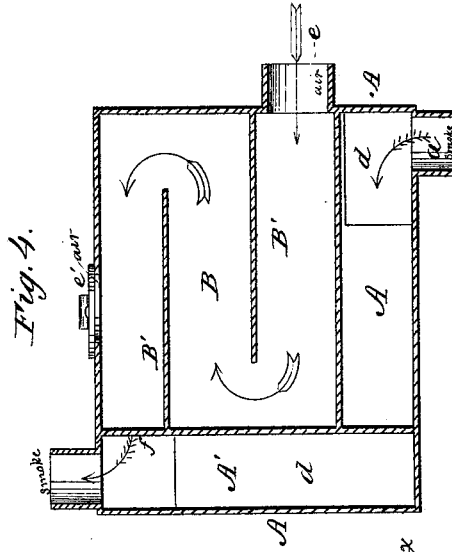
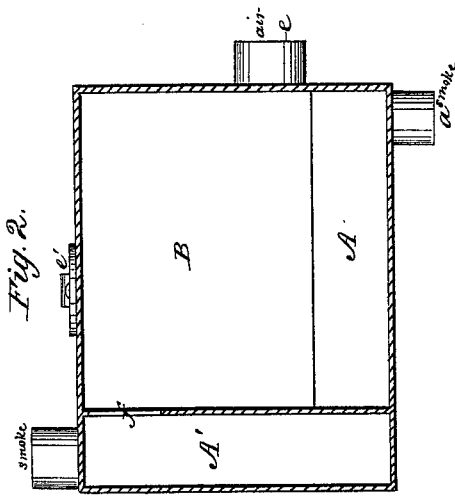


W. A. SWAREN.
Heating-Drum.

No. 200,948.

Patented March 5, 1878.



WITNESSES:

W. W. Hollingsworth
John C. Kemou

INVENTOR:

W. A. Swaren

BY

Samuel T. C.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM A. SWAREN, OF ROBINSON, ILLINOIS.

IMPROVEMENT IN HEATING-DRUMS.

Specification forming part of Letters Patent No. **200,948**, dated March 5, 1878; application filed June 4, 1877.

To all whom it may concern:

Be it known that I, WILLIAM ALBERT SWAREN, of Robinson, in the county of Crawford and State of Illinois, have invented a new and Improved Heating-Drum, of which the following is a specification:

In the accompanying drawings, Figure 1 is a sectional elevation on line *x x* of Fig. 3. Fig. 2 is a cross-section on line *y y* of Fig. 3. Fig. 3 is a plan with part broken away to show the interior construction. Fig. 4 is a cross-section on line *z z* of Fig. 3.

Similar letters of reference indicate corresponding parts.

The invention has reference to an improved heating and ventilating apparatus of that class in which pure fresh air is drawn in and heated up in a series of flues by means of the waste gases of combustion of a stove, &c.

The invention relates to the specific construction and arrangement of parts, as hereinafter described and claimed.

In the drawings, B represents the interior air-chamber, which is divided by horizontal shelves or partitions B', with communicating openings at alternating ends, so as to oblige the air to pass in a circuitous route through the air-chamber B, to be exposed to the heat of the outer smoke-flues A.

The flues A are arranged below the air-chamber B, and at the sides or ends thereof, and the passage A' in rear of the chamber B, with openings *f* at the top of the vertical partition, the gases of combustion passing in at the bottom through the connecting-pipe *a*, and leaving at the top of the front flue A, passing

through openings *f* into flue A', and thence to the chimney.

The bottom and side flues are readily cleaned of soot by withdrawing slide-gates *d*, so that the hand can get in and clean the smoke-flues. The fresh air is conducted from the outside through a rear tube, *e*, into the air-chamber, thence through the same, and out through the registers *e'*. The air, being heated up during its passage, is discharged into the room in heated state, while cold air rushes in from below to take the place of the heated air, supplying thus a constant current of warm, yet pure, air to the room.

I do not claim a heater in which the products of combustion pass around an air-chamber with or without interior shelves or partitions; but,

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

As the improvement hereinbefore specified, the heater and ventilator having side and top air entrance and exit openings *e e'*, the inner suspended air-chamber B, having the parallel shelves B', with alternating openings, the smoke-passage A, extending beneath said chamber and across the ends thereof, and the rear passage A', communicating with passage A by means of openings *f* at the top of the vertical partition, all as shown and described, for the purpose specified.

WILLIAM ALBERT SWAREN.

Witnesses:

E. B. VANSCHOIACK,
G. WOODY.