2 Sheets—Sheet 1.

A. LOTZE.

Heating Stove.

No. 107,696. Patented Sept. 27, 1870.

FIG. 1

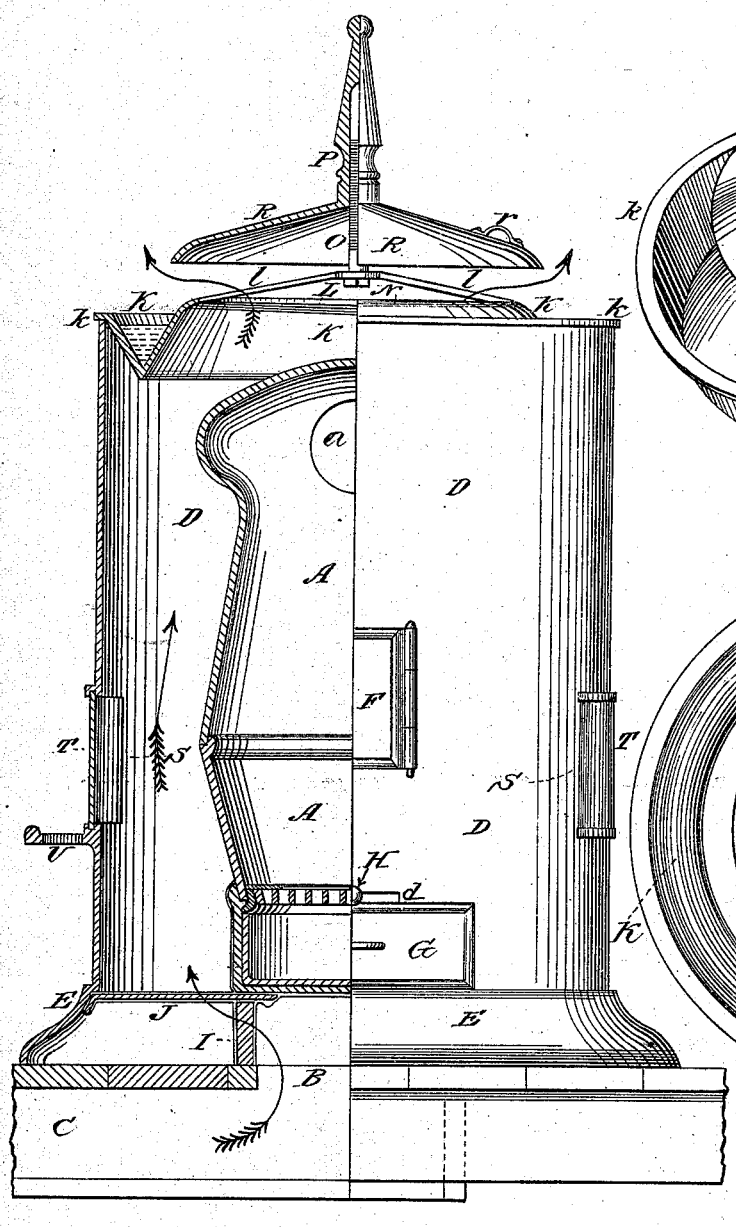


FIG. 2

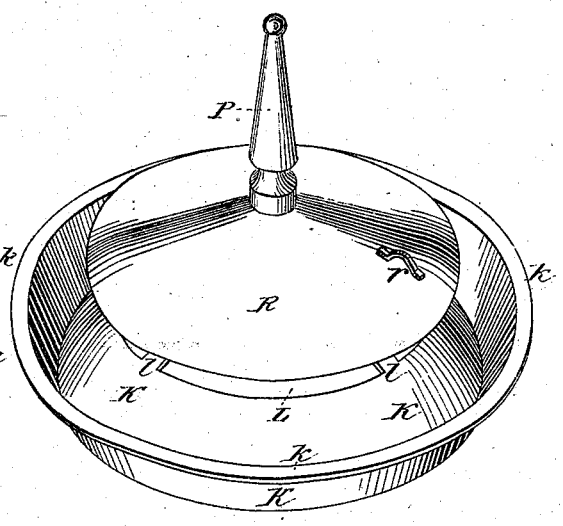
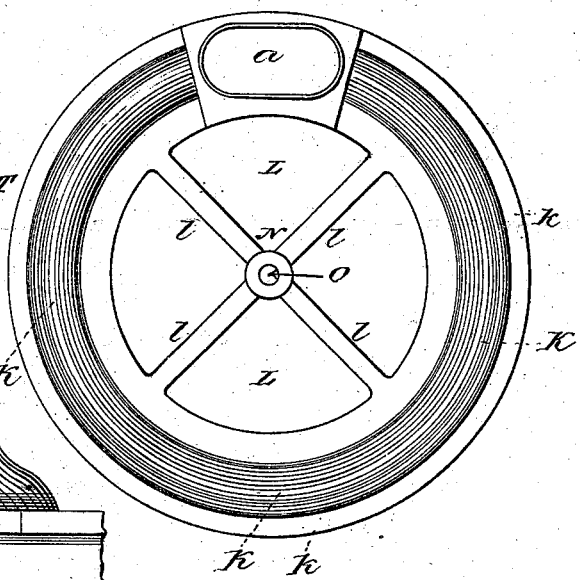


FIG. 3



ATTEST

Jas. H. Layman.

Wm. F. Bauer.

INVENTOR:

A. Lotze

By Knight Bros

Attys.

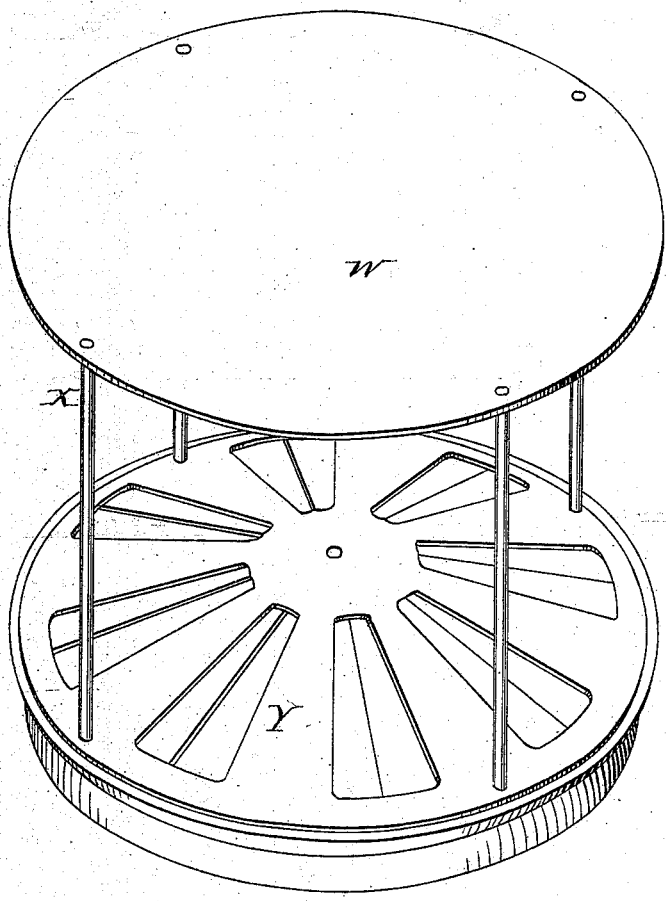
2 Sheets—Sheet 2.

A. LOTZE.

Heating Stove.

No. 107,696. Patented Sept. 27, 1870.

FIG. 4



ATTEST:
William Bauer
A. T. Bradley

INVENTOR:
A. Lotze
By Knight Bros.
Attys

United States Patent Office.

ADOLPHUS LOTZE, OF CINCINNATI, OHIO.

Letters Patent No. 107,696, dated September 27, 1870.

IMPROVEMENT IN HEATING-STOVES.

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

I, ADOLPHUS LOTZE, of Cincinnati, Hamilton county, Ohio, have invented a new and useful improved Warm-air Stove, of which the following is a specification.

Nature and Objects of the Invention.

This invention relates to the class of warm-air stoves which is to be placed in schools, churches, or other large rooms that require warming; and

My improvement consists in the application to such stoves of a peculiarly-constructed, exposed tank, for containing water, whose evaporation will maintain the atmosphere of the room at a uniform and agreeable temperature and hygrometric condition.

Also, in the employment or use, in connection with a hot-air discharge in the top of the stove, of a deflector, arranged over the same, for directing the heated air laterally and downward into the room.

General Description with Reference to the Drawing.

Figure 1 is a partially sectionized front elevation of a warm-air stove provided with my exposed water-tank, the damper being elevated;

Figure 2 is a perspective view of the tank detached from the stove, the damper being elevated the same as in the previous illustration;

Figure 3 is a plan of a modified form of my tank, with the damper removed; and

Figure 4 shows a modification of my stove-top, with deflecting-plate.

The stove proper, A, may be of any approved form, and it is preferred to locate it immediately over an opening, B, in the floor of the school or other room in which the apparatus may be situated.

Communicating with the opening B is a flue or pipe, C, which permits a constant current of pure, fresh air to flow into the stove from the exterior of the building.

Placed a sufficient distance from the stove A, and completely surrounding the same, is a jacket or shell, D, that is supported upon a base, E, and which is provided with a feed-door, F, an ash-pan, G, and a slot, *d*, to permit the vibration of the grate-lever H.

The stove is elevated upon feet, I, and is maintained at a proper position within the shell D by means of braces J.

My exposed water-tank consists of an annular trough, K, whose vertical section has the represented V-shape.

The exterior of this tank terminates in a flange or rim, *k*, which rests upon the upper end of the jacket D.

The tank has a central opening, L, which is spanned by a number of radial arms, *l*, that converge toward and unite in a common center, N, from which projects vertically a screw-threaded shaft, O.

Engaging with this screw-threaded shaft is a nut, P, to which is secured an imperforate damper, R, of such shape and dimensions as to completely cover the central opening L, of the water-tank, whenever said damper is in its most depressed position.

The nut P of the damper may be of any desired ornamental shape or configuration.

The lower portion of the jacket has a number of openings, S, closable by sliding doors, T, the opening of which allows the occupants of the room to warm their feet by the stove.

A shelf or foot-rest, U, may be attached to the jacket, at the bottom of the opening S.

Operation.

The cold air, after entering through plate C and opening B, is heated to a proper temperature by being brought into contact with the sides of the stove A, after which the (now heated) air escapes from the apparatus into the room through the central openings L of the water-tank.

The heated air, after leaving the stove, and before it escapes through the opening L, is brought in contact with both of the inclined inner sides of tank K, which causes the evaporation of the water contained therein, and, as the steam or vapor arising from this water escapes directly into the room without passing through pipes of any kind, the apartment is heated with air of an agreeable and healthy temperature and moisture.

As soon as the room has become sufficiently warmed, the supply of air can be shut off, by rotating the damper R in such a manner as to compel it to descend and close the opening L, the rotation of the damper being facilitated by the handle *r*.

My tank, being situated outside of the damper, enables the discharge of warm air to be entirely shut off without interfering with the evaporation of water in said tank directly into the room; and, as the latter is always exposed, the attendant can see at a glance when it requires replenishing.

Instead of the imperforate damper, a register may be substituted therefor, having radial openings through which the air can escape.

In fig. 1, the smoke-pipe *a* is supposed to project horizontally from the back of the stove, but, if preferred, it can be arranged so as to pass up through the water-tank, as represented in fig. 3, the tank being, in such case, only a segment of a circle.

In order to prevent the heated air escaping directly to the ceiling, and to project the said air laterally and downward into the room, I may provide a deflecting-

plate or disk, W, fig. 4, upheld a suitable distance above the top of the stove, by rods X, and said stove-top may be provided with a revolving register, Y, or other suitable register or damper, and with either a central water-tank, or with an annular or segmental tank, as above described.

Claims.

I claim herein as new, and of my invention—

1. The exposed water-tank K *k* L, forming the top and discharge of the shell or casing of the stove, substantially as shown and described, for the purposes set forth.

2. The relative arrangement of the air-discharge L, closable by a damper or register, R, and the exposed water-tank K, as and for the purpose described.

3. The combination, with the air-discharge L, arranged in the top of the shell or casing D, of the deflecting-plate or disk W, arranged over the said air-discharge, for the purpose stated.

In testimony of which invention I hereunto set my hand.

ADOLPHUS LOTZE.

Witnesses:

WM. F. BAUER,

JAMES H. LAYMAN.