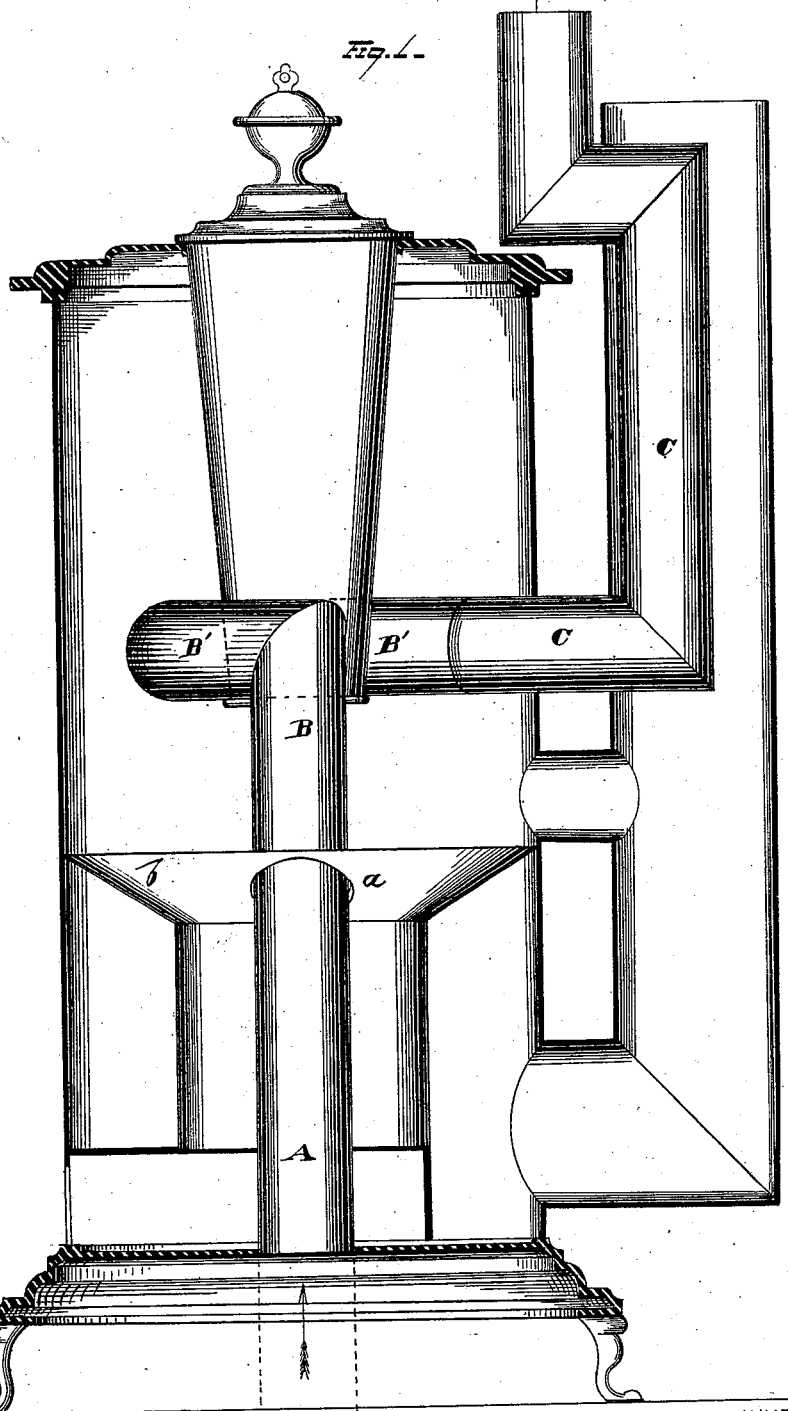
L. BENNET.

Apparatus for Warming and Ventilating Buildings.

No. 204,126. Patented May 28, 1878.

Fig. 1.



WITNESSES

Ed. F. Nottingham

A. W. Bright

INVENTOR

Lyman Bennet.

by A. Seymour ATTORNEY

UNITED STATES PATENT OFFICE

LYMAN BENNET, OF AMSTERDAM, NEW YORK.

IMPROVEMENT IN APPARATUS FOR WARMING AND VENTILATING BUILDINGS.

Specification forming part of Letters Patent No. **204,126**, dated May 28, 1878; application filed February 23, 1878.

To all whom it may concern:

Be it known that I, LYMAN BENNET, of Amsterdam, in the county of Montgomery and State of New York, have invented certain new and useful Improvements in Apparatus for Warming and Ventilating Buildings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawing, which forms part of this specification.

My invention relates to improvements in apparatus for warming and ventilating buildings, and is designed to provide a simple and effective means for conducting air from outside of a building through a heated stove and smoke-flue and discharging it into apartments, whereby pure heated air can be supplied to sleeping-rooms, sick-rooms, plant-rooms, and other apartments.

The invention consists in the combination, with a magazine heating-stove, of a close air-conduit having communication with the air outside of the building, and which passes up through the base-section of the stove in the space formed annularly between the fire-pot and the stove-wall, then passes through an opening made in the flaring rim of the fire-pot, and extends vertically upward contiguous to the side of the stove until it reaches a point approximately in horizontal line with the lower body of the fuel-magazine. It there passes about the magazine, partially embracing the same, and enters the smoke-flue, through which latter it passes up and connects, by branch divisions, with the respective apartments to be heated.

Referring to the drawing, the figure is a view of a stove, in broken section, to represent my invention.

Any suitable stove may be used for this purpose; but preferably I employ one made with a fuel-magazine. The outer air-connection may be of any desired character, as the object is only to bring the pure atmosphere from without the building into the heating-pipe, which is placed within the stove. Hence I do not show such connection without the stove, but designate the upright pipe or conduit A in the base of the stove as the cold-air pipe, and this extends up within the annular space formed between the fire-pot and the stove-casing. After passing through the opening *a* in the flaring rim *b* of the fire-pot it connects with the conduit B, which latter I term the "heating-pipe or reservoir." This latter continues upward contiguous to the vertical side of the stove, and at a suitable point forms a horizontal curvature, B′, and passes around the fuel-reservoir, preferably at the lower extremity thereof. It thus partially embraces the fuel-cylinder, and then connects with the exit-pipe C, which latter, passing through the stove's side and entering the upright smoke-flue, extends upward within the same until it reaches suitable points at which to branch off and connect with pipes which deliver the heated air into the respective apartments to be warmed thereby.

The cold-air conduit A first subjects the air received therein to the action of the stove's heat, and this is exerted in much greater degree upon the current of air as the latter passes up into the heating-pipe or reservoir B within the stove proper. The horizontal curvature formed in the upper portion of this pipe serves especially to subject its inclosed air-current to the intense heating action of the flame and fire, and hence the highly-rarefied air is hurried into the exit-pipe C, where it is still affected by a surrounding heating agency within the smoke-flue. This arrangement supplies the apartment with pure heated air in any volume desired, as the air-conduits may be of any desired size, and may be provided with damper mechanism to regulate the current of air. So, too, the register through which the air is discharged into the rooms may be provided with the usual devices for opening and closing the same. The rarefying action of the heat upon the air-current induces a strong draft within the conduits; and, as the air passes swiftly upward by reason of such rarefaction, the vacuum caused thereby is immediately filled by the impressing volume of the cold outer air, and thus a strong inward and upward draft is occasioned.

If desired, the room in which the stove is placed may be ventilated with pure heated air by making a suitable connection of the heating-pipe or reservoir to discharge directly into the

same. It is evident that in such case all connection of the heating-pipe or reservoir may be discontinued with the exit-pipe, which, passing through the smoke-flue, conducts heated air into other apartments; or the former arrangement, whereby both the immediate stove-apartment and other rooms are simultaneously supplied with pure heated air, may obtain.

It is further apparent that the apparatus may be used to heat only, and not ventilate, any of the rooms, by disconnecting the outer-air communication, so that air from the room in which the stove is placed may enter the upright pipe in the base-section of the stove and conduct heated air up into the desired apartment.

In view of the fact that cold-air pipes of heating-stoves having connection with the outer air have before been used, and magazines encircled by a hot-air chamber are also old, I restrict my invention to the construction shown in the drawing and set forth in the claim.

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

The combination, with the pipe A, having communication with the air outside of the building, the same being located between the fire-pot and stove-wall in a magazine-stove, and passing through the opening *a* in the flaring rim *b* of the fire-pot, of the vertical pipe-section B, located contiguous to the stove-wall, the horizontally-curved portion B′, partially embracing the magazine, and the exit-pipe C, which latter passes upward through the smoke-flue and connects with the respective rooms to be heated, the said several parts made and connecting together all substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 16th day of February, 1878.

LYMAN BENNET. [L. S.]

Witnesses:
JOHN K. STEWART,
I. J. CLISBE.