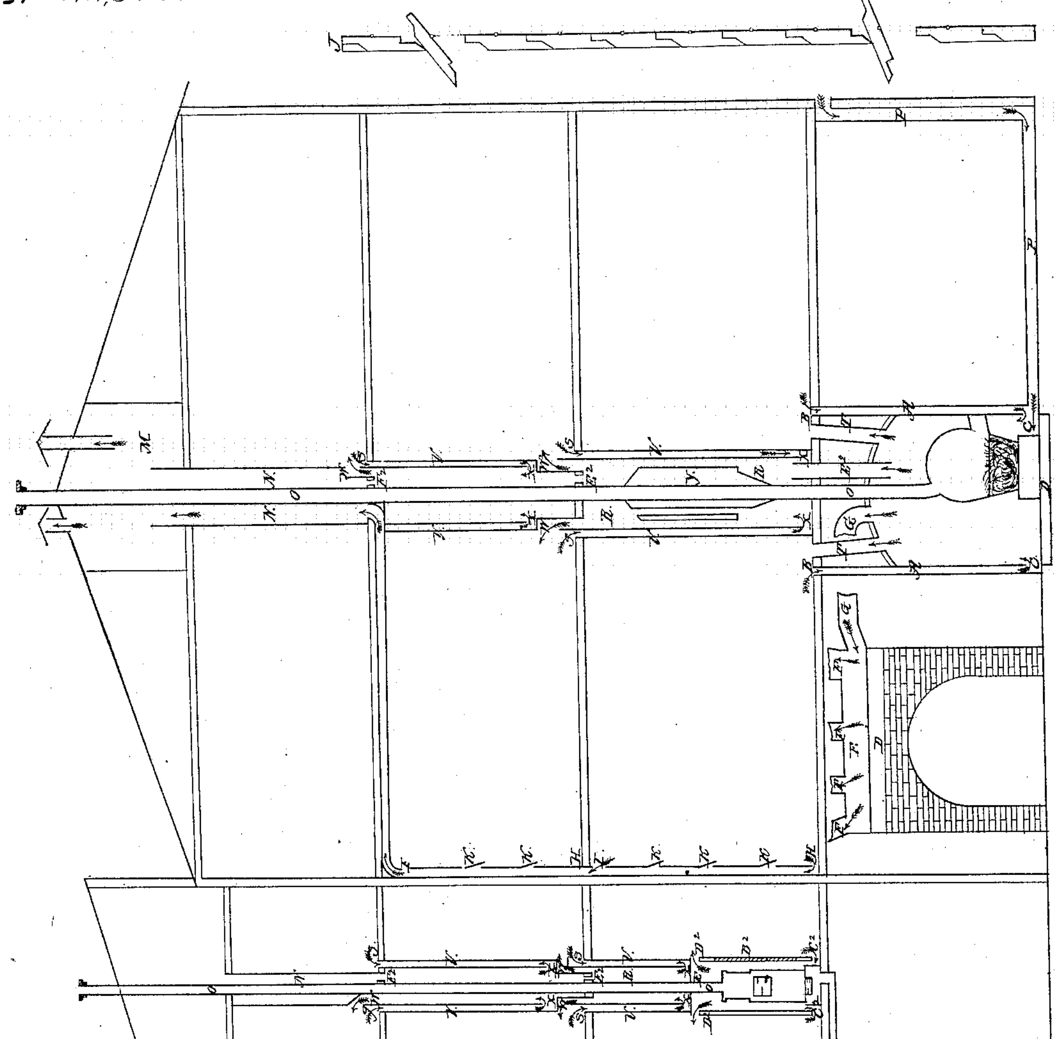
I. Pitman,

House Ventilator,

No. 44,970. Patented Nov. 8, 1864.



Witnesses:
Chas. Anthony
Joseph S. Pitman

Inventor:
Isaac Pitman

UNITED STATES PATENT OFFICE.

ISAAC PITMAN, OF PROVIDENCE, RHODE ISLAND.

THERMO-CIRCULATING VENTILATOR.

Specification forming part of Letters Patent No. 44,970, dated November 8, 1864.

To all whom it may concern:

Be it known that I, ISAAC PITMAN, of Providence, in the county of Providence and State of Rhode Island, having invented a new and useful mode of ventilating the atmosphere of dwelling and other houses, apartments, &c., do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and the letters of reference marked thereon.

Said drawings exhibit a thorough mode of heating the apartments of a dwelling-house, and embrace modes already known and in use, a force for ventilation being required, and heat as a ventilating force being necessary. It is through these, by the peculiar and novel application and use of them I make, that I attain the object sought, which is thoroughly to ventilate a house or its apartments, making a saving of heat, obviating the difficulty of overheating, and producing a pure, genial, and pleasant atmosphere.

Now, in order to effect my purpose aforesaid, I connect and combine the air of an apartment or apartments with the air of a heated or furnace air-chamber, by having a tube or conductor or conductors, A, with a register at the upper end, as at B, leading down to the bottom of said air-chamber, as at C, and there entering said chamber through the bottom, or on a level with the same, for the purpose of creating a continuous and circuitous current, without diversion, interruption by or contact with any falling or counter current or currents.

Having made, by the means in the manner stated, the atmosphere of an apartment to be in a continuous and circuitous circulation and motion, and thereby of a uniform or nearly uniform temperature, sufficiently so for my purpose, I am enabled to ventilate, and do ventilate, thereby an apartment as well at a point of altitude near the floor, as at H, as at the ceiling at I.

When the outside air is very cold and the air of the apartment is very warm—that is, when there is the greatest difference—I have the aperture for the outflowing of the warmer air, down to its lowest point of altitude, as at H, and alternate my point of ventilation between the point H and the point I, in common use, to correspond to the varying differences between the outside air and the air inside, said ventilating-apertures being each covered with a register and connected with a tube or different tubes or conductors, as L, leading in a constantly vertical direction, or otherwise, to the attic M, to the open air, or to the space N, around the smoke-pipe O, thereby to obtain a greater force and rapidity of ventilation.

I replace the air carried off by ventilation in the ordinary manner of conducting the outer air (see P P) into the heated air-chamber, as into the furnace air-chamber in common use, but always by introducing said air at, or under, or through the bottom of said chamber, and regulating it to correspond to the operating ventilating force at the time, as may be required.

Over the furnace air-chamber in common use, or above the same in altitude, I erect an upper air-chamber to be heated from said furnace and connect the air of the apartments above with said upper air-chamber, (see S V X,) in the same way as heretofore described, (see B A C,) by entering at or through the bottom of the same, and for the same purpose—viz., to enable me to ventilate at any point of altitude I may choose, as before described; or I connect the air of said rooms above with the lower air-chamber in the same way, as circumstances may dictate.

This continuous circuitous circulation of the air, giving the power of ventilating at a low point of altitude, as aforesaid, prevents the accumulation of impure air by carrying it off as fast as produced, without decreasing the uniform heat and comfort of the apartment, as when ventilated in the common way without this circuitous circulation. It combines an economy of fuel, uniform temperature, and pureness of air not otherwise or before attained.

What I claim, and desire to secure by Letters Patent, is—

1. The circuitous circulation of the air of an apartment, from the floor of the same through a heated air chamber by entering at the bottom of said chamber and passing through in a continuous current, without contact with any falling or counter current, back into said

apartment again, for the ultimate purpose of ventilation at a low point of altitude, close to the floor, by the uniform temperature acquired in consequence of the complete circulation of the air, in the manner and by the means herein described.

2. The ventilation of an apartment at a low point of altitude by a ventilating-aperture at or near the floor, in combination with the circuitous circulation of the air, by the means and in the manner described herein.

ISAAC PITMAN.

Witnesses:
HENRY PITMAN,
JOSEPH S. PITMAN.