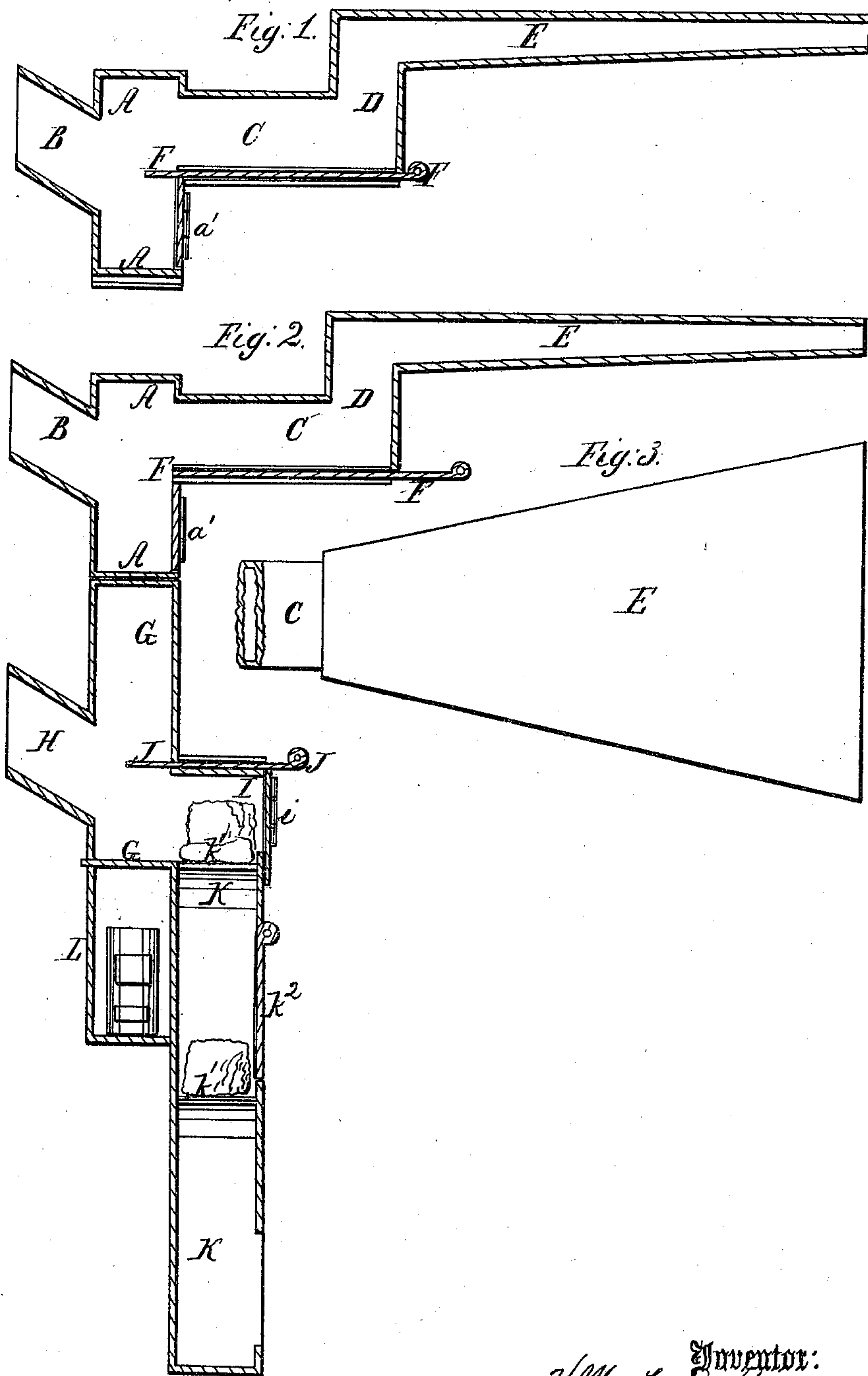


W. F. Thoms.

House Ventilator.

N^o 97,570.

Patented Dec. 7, 1869.



Witnesses:
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PER *[Signature]*
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United States Patent Office.

WILLIAM F. THOMS, OF NEW YORK, N. Y.

Letters Patent No. 97,570, dated December 7, 1869.

VENTILATOR.

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

To all whom it may concern:

Be it known that I, WILLIAM F. THOMS, of New York city, in the county and State of New York, have invented a new and useful Improvement in Ventilator; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 is a detail vertical section of a portion of my improved ventilator.

Figure 2 is a detail sectional view of the entire apparatus.

Figure 3 is a detail top view of a portion of the same.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish a simple, convenient, and effective apparatus for ventilating dwellings, offices, churches, halls, and other buildings, and which shall be so constructed and arranged that it may be so adjusted as to introduce into the room warm air in winter, and cool air in summer; and

It consists in the construction and combination of various parts, as hereinafter more fully described.

A is a short vertical pipe, which is set in a square of a window-sash, or in the wall of a room or building.

With the outer side of the pipe A is connected an upwardly-inclined pipe, B, the outer end of which communicates freely with the outer air.

With the inner side of the pipe A is connected a short pipe, C, projecting inward at right angles to the said pipe A.

The pipe C should be so arranged that its lower side may be about opposite the centre of the opening into the pipe B, as shown in figs. 1 and 2.

Upon the end of the pipe C is formed an elbow, D, projecting upward at right angles to the pipe C.

To the upper end of the elbow D is attached one end of the pipe E, which extends along the ceiling of the room, and is made broad and thin, to expose the cold air entering the room through said pipe, when in a thin sheet, to the heated upper stratum of air in said room, so that the air may be warmed before being discharged into the room.

F is a valve, extending along the lower side of the pipe C, and made of such a length that when pushed inward its forward end may reach about to the centre of the pipe A.

α is a small door, formed in the forward side of the lower part of the pipe A, below the pipe C. The door α may be opened to allow the cold air to escape directly into the room for summer ventilation, or a charcoal stove may be placed in the lower part of the pipe

A, to produce an upward draught through the pipe B, to draw off the warm air from the upper part of the room.

The apparatus A B C D E F may be used alone or in connection with the part of the apparatus hereinafter described.

G is a pipe, which is placed in a window-sash, or in the wall in the lower part of the room, and which communicates with the outer air through the upwardly-inclined pipe H.

With the lower part of the pipe G is connected the end of a pipe, I, so arranged that the upper side of the said pipe I may be directly opposite the middle part of the end or orifice of the pipe H.

J is a valve, sliding along the upper side of the pipe I, and made of such a length that when pushed in its forward end may be at the centre of the pipe G.

In the end of the pipe I is formed a small door, i , as shown in fig. 2.

With the lower side of the end of the pipe I is connected the upper end of the downwardly-projecting pipe K, which is made with an opening in its lower part for the passage of air, with one or more gratings, k^1 , to receive ice to cool the air before it enters the room, and with one or more small doors, k^2 , for convenience in putting in the ice.

Beneath the lower end of the pipe G is formed a recess, L, in which may be placed a small charcoal stove, to promote the circulation of air through the apparatus when required.

The two parts of the apparatus may be used separately or in connection, as may be desired, but the best results will be obtained when they are used in connection.

When they are used in connection, they may be placed, the one above the other, upon the same side of the room, as indicated in fig. 2; or they may be placed, the one in one part of the room and the other in another part, as may be desired or convenient.

For winter ventilation, the apparatus is arranged as shown in fig. 2, the cold air passing in through the pipes B A C D E, and being warmed in the pipe E before it enters the room, the shoulder or elbow D preventing the escape of the warm air through said pipes.

The impure air passes out through the pipes K I G H, the circulation being increased, when necessary, by applying heat to the lower end of the pipe G, as hereinbefore described.

For summer ventilation, the valve F is pushed in or closed, and the valve J is drawn out or opened. The outer air enters through the pipes H G I K, being cooled by ice placed in the pipe K, when necessary. The warm air passes out through the pipes E

D C A B, the circulation being increased, when desired, by heat applied to the lower part of the pipe A, as hereinbefore described.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

1. The combination and arrangement of the pipes B A C D E and valve F, with each other, when used alone or in connection with the pipes H G I K, said parts B A C D E F being constructed and operating substantially as herein shown and described, and for the purpose set forth.

2. The combination of the pipes H G I K and valve J, with each other, whether used alone or in connection with the pipes B A C D E, said parts H G I K J being constructed and operating substantially as

herein shown and described, and for the purpose set forth.

3. The combination of a charcoal stove or other heater with the pipes A and G, or either of them, substantially as herein shown and described, and for the purpose set forth.

4. The combination of one or more gratings, *k*¹, with the pipe K of the apparatus G H I J K, substantially as herein shown and described, and for the purpose set forth.

The above specification of my invention signed by me, this 6th day of October, 1869.

WM. F. THOMS.

Witnesses:

GEO. W. MABEE,

JAMES T. GRAHAM.