

(No Model.)

2 Sheets—Sheet 1.

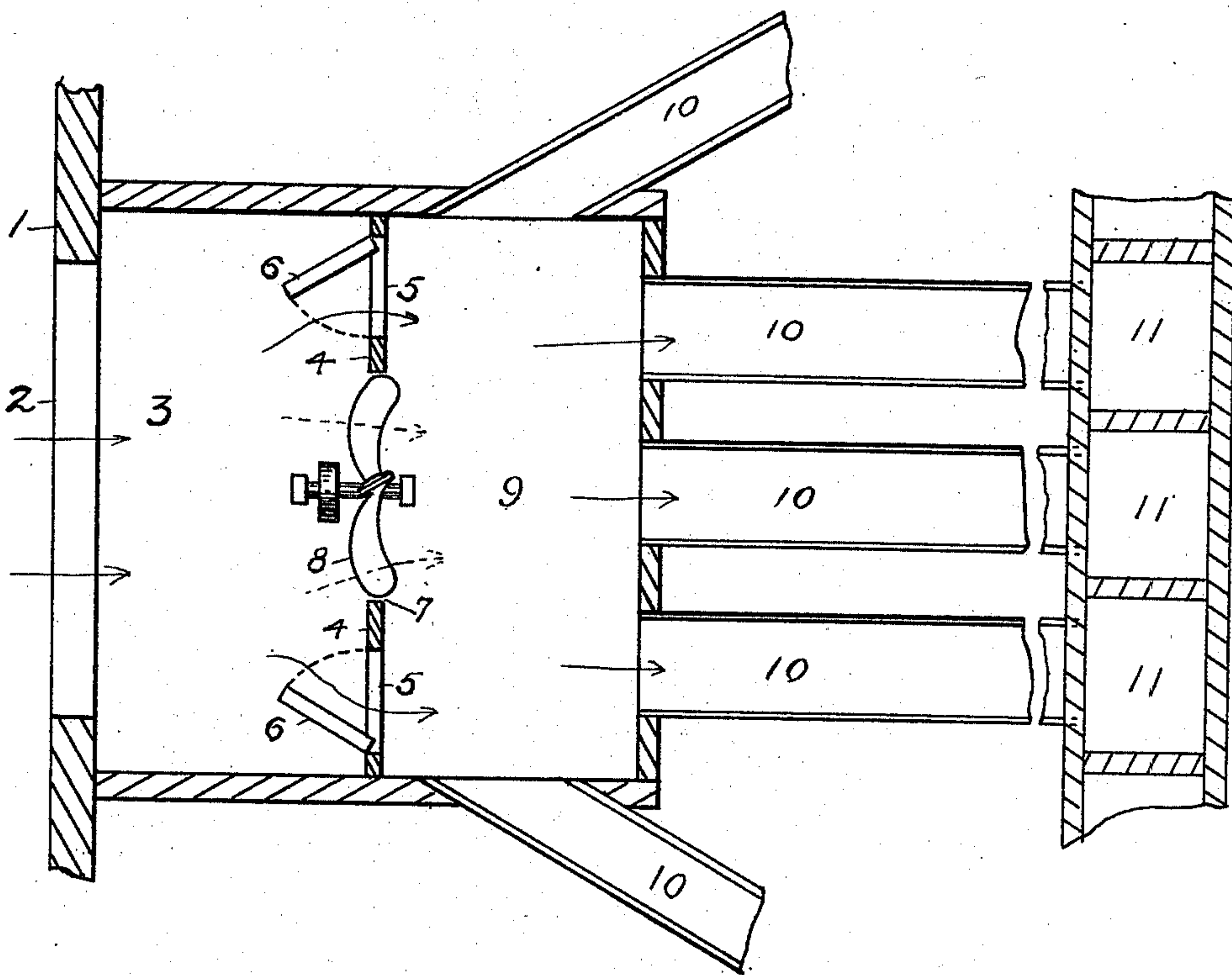
W. F. WOLFE.

HEATING AND VENTILATING APPARATUS FOR BUILDINGS.

No. 571,424.

Patented Nov. 17, 1896.

Fig 1



Witnesses:

Wm W. Montgomery  
Frank H. Reynolds.

Inventor.

Wilsie F. Wolfe.

by Howes Kellogg,  
attys.

(No Model.)

2 Sheets—Sheet 2.

W. F. WOLFE.

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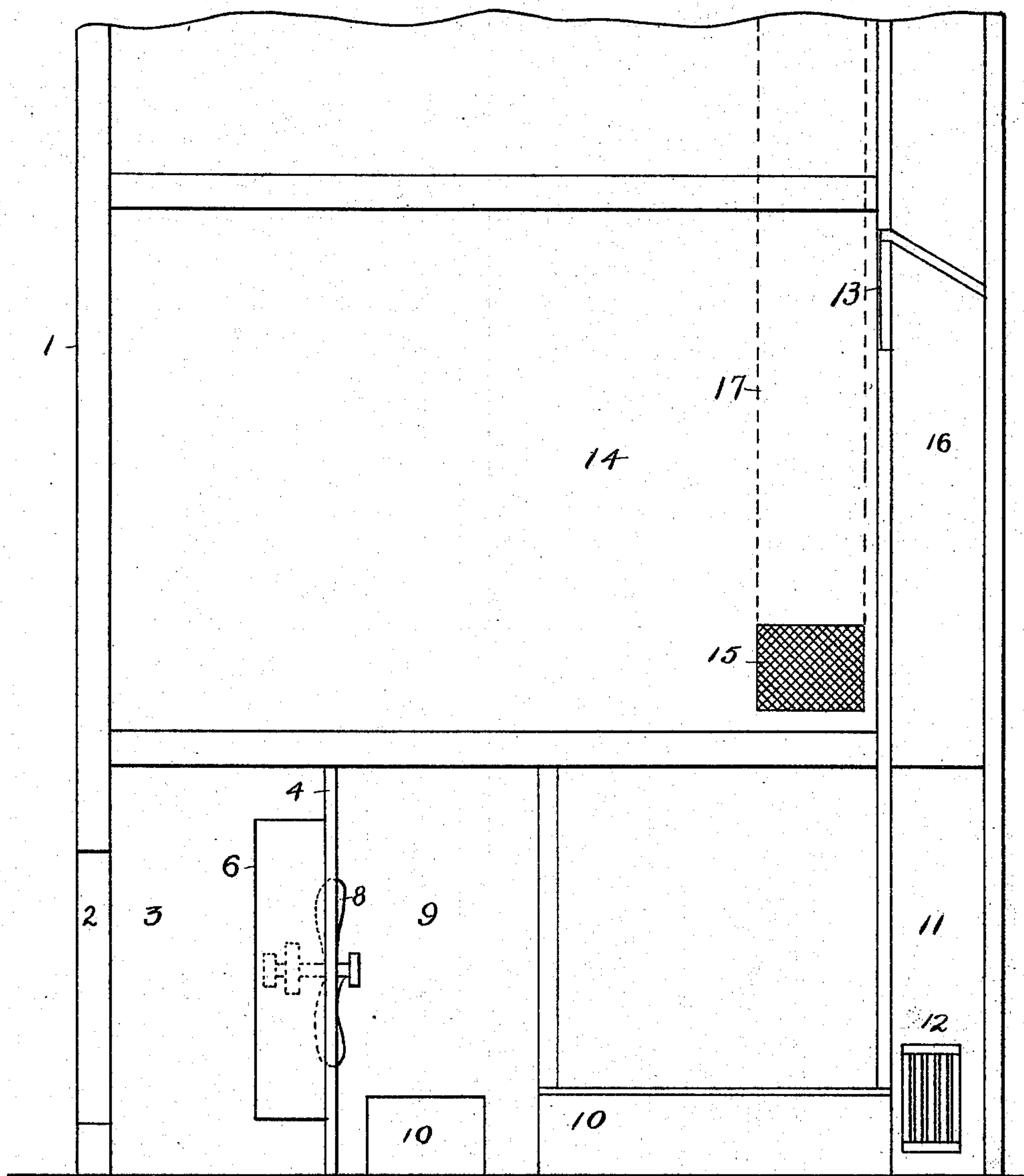


Fig. 2.

Witnesses:-

Ally. L. Hayes

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Inventor,

Wittie F. Wolfe,

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# UNITED STATES PATENT OFFICE.

WILTSIE F. WOLFE, OF NEWTON, MASSACHUSETTS.

## HEATING AND VENTILATING APPARATUS FOR BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 571,424, dated November 17, 1896.

Application filed February 3, 1896. Serial No. 577,841. (No model.)

*To all whom it may concern:*

Be it known that I, WILTSIE F. WOLFE, a citizen of the United States, residing at Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Heating and Ventilating Apparatus for Buildings, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of my invention is to supply a simple, efficient, and economical means for supplying fresh air to buildings for ventilating purposes; and to this end the invention consists in the combination of a suitable chamber, a partition in said chamber, ducts on one side of the partition communicating with the outer air, ducts on the other side of the partition communicating with the building to be ventilated or heated, valves in the partition, and a fan or blower in said partition whereby air may be supplied either by natural or forced draft.

The invention is fully illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of such parts of a building as are essential to show the operation of my invention, and Fig. 2 is a vertical sectional view of the same.

In the drawings like numerals refer to like parts.

Referring to the drawings, 1 is the outside wall of a building. 2 is an opening in said wall, which admits the fresh out-door air to the chambers 3 and 9, which are separated from each other by a partition 4. 5 5 are openings in said partition, and 6 6 are doors or valves which are adapted to close said openings. 8 is a fan or blower placed in an opening 7 in said partition.

10 10 are ducts leading from the chamber 9 to the heating-chamber 11 for the purpose of conducting fresh air thereto, where it may be warmed in any suitable manner, as, for example, by means of a coil of steam-pipe 12, and from the heating-chamber the fresh air is conducted to the various apartments by suitable ducts.

13 is the communication from the duct 16 to the apartment 14, which is to be warmed or ventilated, and from which apartment the foul air is removed by means of an opening 15 in a suitable ventilating-flue 17.

It is desirable to connect the ducts 10 to the apparatus for heating the building, so that in cold weather the fresh air may be warmed before entering the apartments, while in warm weather when there is no fire in the heating apparatus the fresh air will pass to the apartments at its natural temperature.

At all times when the difference in temperature between the external air and the air in the building is great enough to allow the fresh out-door air to flow into the building by gravity the doors or valves 6 6 are opened, as shown in the drawings, and the air will flow through the opening 2, chamber 3, openings 5 5, chamber 9, and ducts 10 to the heating-chamber, as shown by the direction of the arrows; but when the difference in temperature before mentioned is slight, and consequently the outside and inside air are substantially at an equilibrium, the air will not flow into the building by gravity, and some artificial means must be provided for forcing it through the ducts in order to maintain the desired supply of fresh air, and to accomplish this result the doors 6 6 are closed and the fan or blower 8 is started, when the air will be drawn from the chamber 3 and forced into the chamber 9 by the fan, as shown by the dotted arrows. By this means a pressure of several ounces can be maintained in the chamber 9, from which the air will pass through the ducts 10 to the apartments to be ventilated. In such case it may be slightly warmed, if desired, or it may enter the apartments at its natural temperature. The doors or valves 6 may be operated by hand or by any other suitable means.

It occasionally happens that notwithstanding there is sufficient difference in temperature to cause a natural supply of air to the various apartments the velocity of the wind may be so great and in such direction as to prevent the proper supply, and in such case it is only necessary to close the doors 6 6 and start the fan 8, as before described, in order to insure the desired supply of fresh air.

It will be readily seen that by the arrangement of apparatus as herein described a constant and adequate supply of fresh air can be provided for ventilating purposes at all seasons of the year and under all conditions of the weather.



The fan or blower 8 may be of any desired construction, and may be driven from any desired source of power.

5 By apparatus heretofore employed for the purpose described, the constant supply of fresh air can only be secured by operating the fan or blower, while by the means herein described it will be necessary to operate the fan or blower only during a portion of the time  
10 that a supply of fresh air is required, thus greatly diminishing the cost of operation.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

15 In a heating and ventilating apparatus for buildings, the combination, substantially as described, of a chamber; a partition in the same dividing the chamber into two com-

partments; ducts for admitting the outer air into one compartment; ducts forming communication between the apartments to be ventilated and the other compartment; valves in the partition to admit air from one side of the partition to the other and capable of being opened or closed, and apparatus located  
25 in said partition for forcing the air from the outer to the inner compartment of the chamber.

In testimony whereof I have hereunto subscribed my name this 27th day of January, 30  
A. D. 1896.

WILTSIE F. WOLFE.

Witnesses:

CHAS A. KELLOGG,  
WM. W. MONTGOMERY.