G. C. QUEZADA.

VENTILATING ROOMS.

No. 184,797. Patented Nov. 28, 1876.

Fig. 1.

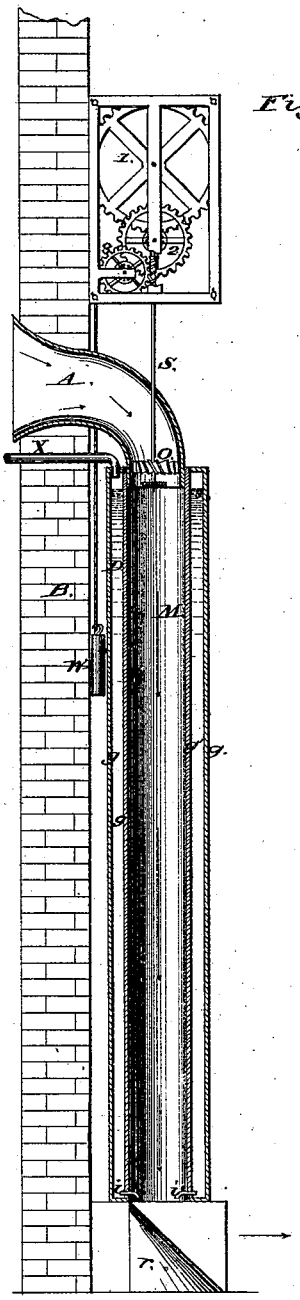
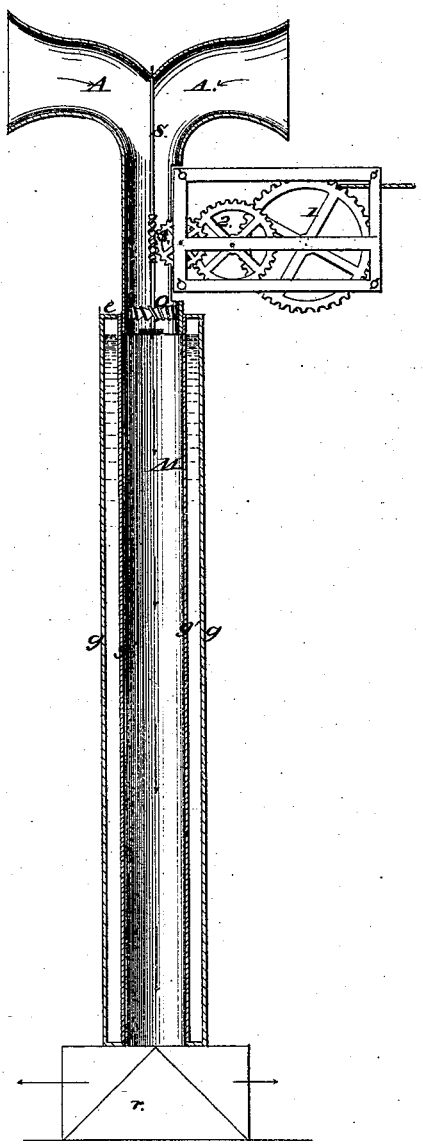


Fig. 2.



Witnesses:

L. C. Champney

Walter M. Randall

Inventor:

G. C. Quezada

UNITED STATES PATENT OFFICE.

GREGORY C. QUEZADA, OF TROY, NEW YORK.

IMPROVEMENT IN VENTILATING ROOMS.

Specification forming part of Letters Patent No. **184,797**, dated November 28, 1876; application filed September 26, 1876.

To all whom it may concern:

Be it known that I, GREGORY C. QUEZADA, of Troy, in the county of Rensselaer and State of New York, have invented a new and useful Improvement in Ventilating Rooms, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of this invention is to provide an improved system of ventilation for halls, theaters, churches, rooms, &c., by which fresh air is continually supplied, and also at the same time the temperature of the same lowered and a certain degree of moisture supplied; and the invention consists of an outer pipe column or tubular body of suitable non-porous material and of an inner pipe of porous material, between which a space is formed that is filled with water or other liquid. The air is drawn through or forced through the tube by a fan or otherwise, and supplied to the room at reduced temperature.

The apparatus is based on the principle of lowering the temperature by the evaporation of water or other liquid percolating through a porous pipe. The air in its passage through the porous pipe is thus cooled and furnished to the rooms.

In the accompanying drawing, Figure 1 represents a vertical central section of a tube or column, with interior porous pipe, illustrating my improved system of ventilating and cooling rooms. Fig. 2 shows a modification.

M represents the interior pipe of porous clay or other suitable material. *g* is the outer tube or column, which is made of cast-iron, or other suitable non-porous material. A narrow space, *g'*, is formed between the two pipes, and kept continually filled with water or any other suitable liquid, D, capable of evaporation.

The air may be forced into the room through the interior pipe M by means of a fan revolved by suitable power, and supplied to the room through registers or otherwise at the bottom, the air being cooled in its passage through the pipe M. The cold air, entering the room from below or near the bottom, will gradually rise and force out the warm air above. The air may be also drawn into the room and through pipe M by a suction-fan, or by any other equivalent means, the passage of the air through the porous pipe M serving to accelerate the evaporation of the liquid percolating from the outside to the inside of the same, and thereby to reduce the temperature of the air.

If it is desired to lower the temperature in a considerable degree, diluted alcohol or any other rapidly-evaporating liquid may be used in place of water.

The air-supply pipes may be arranged in the walls in the manner of flues, or in a corner, or in columns, or in other suitable manner, forming a simple and reliable means of providing fresh and cool air to buildings of all kinds.

The water to supply evaporation may be admitted to the annular receptacle D through the pipe X, and discharged wherever occasion shall require it, by cocks *i* at the bottom of pipe M.

In Fig. 1 the fan O is shown operated by clock-gearing 1 2 acting on a worm-shaft, S, and the funnel A of pipe M extends through the wall B of the room or building.

In Fig. 2 the gearing 1 2 is arranged at one side in place of being above the worm-shaft S, and the pipe M terminates in a double funnel, A, which is designed to extend above the roof of a building, and to revolve on its vertical axis for the purpose of catching the breeze.

What I claim is—

1. For ventilating rooms, an exterior tube, flue, or column of non-porous material, provided with an interior pipe of porous material, at some distance from the former, substantially as and for the purpose described.

2. For ventilating rooms, an exterior tube, flue, or column of non-porous material, and an interior pipe of porous material, forming an intermediate space, for water or other evaporating liquid, substantially as shown and described.

3. The combination of a suction or force fan with an interior pipe of porous material, surrounded by an outer tube, flue, or column of non-porous material, and having a suitable liquid filling up the space between the inner and outer tubes, substantially as described.

G. C. QUEZADA.

Witnesses:

L. C. CHAMPNEY,

JOHN L. HOLMES.