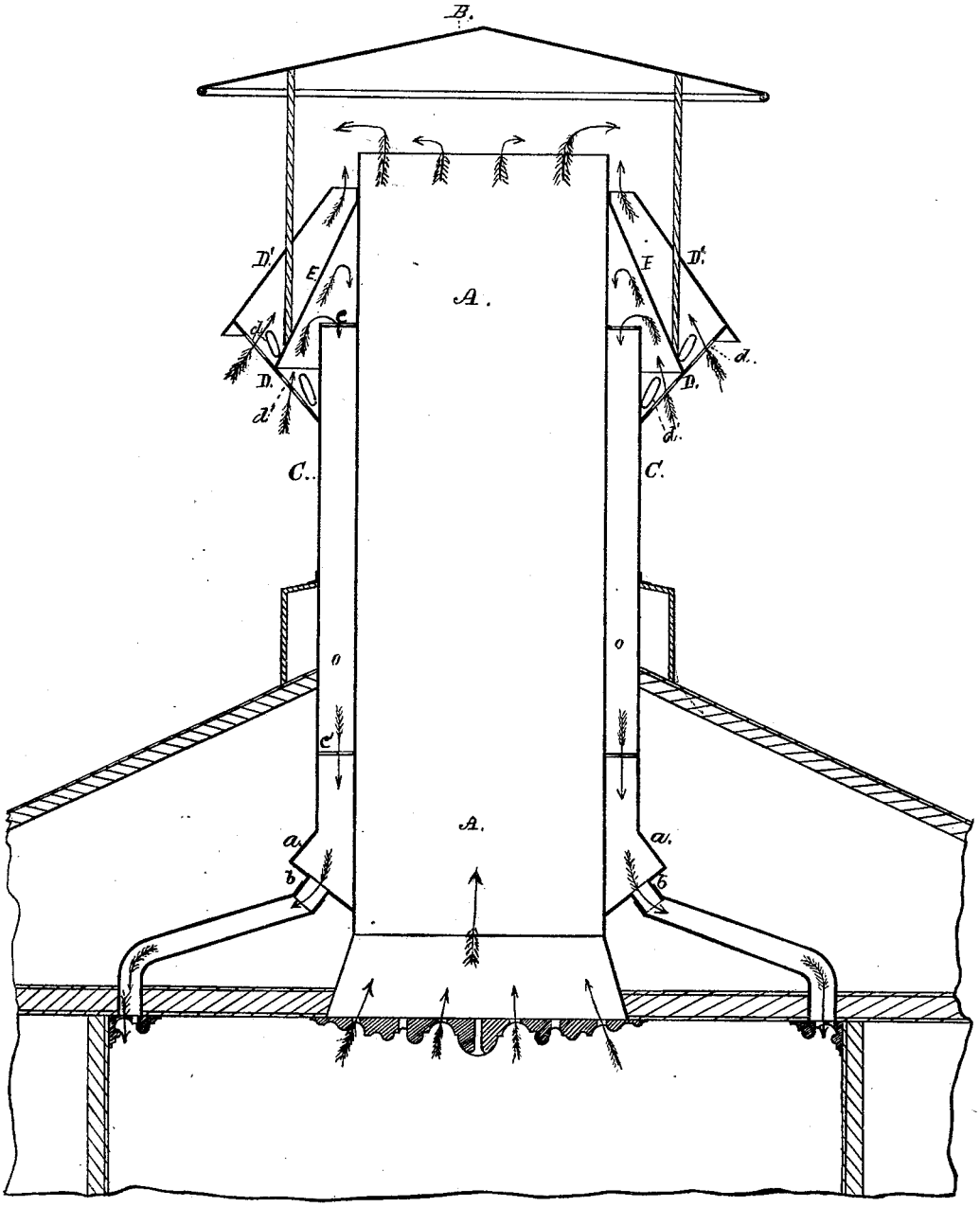
P. MIHAN.

VENTILATOR.

No. 186,054. Patented Jan. 9, 1877.



Witnesses.

Geo Gray.

F. G. Hale.

Patrick Mihan.

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P. P. Hale.

UNITED STATES PATENT OFFICE.

PATRICK MIHAN, OF CAMBRIDGEPORT, MASSACHUSETTS.

IMPROVEMENT IN VENTILATORS.

Specification forming part of Letters Patent No. **186,054**, dated January 9, 1877; application filed March 28, 1876.

To all whom it may concern:

Be it known that I, PATRICK MIHAN, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Ventilators; 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 which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

The said drawing denotes a central and vertical section of a ventilator constructed in accordance with my invention, the same being represented as applied to the upper part of a building.

My invention relates to that class of ventilators termed "duplex"—that is, those combining both the principle of exhaust and supply—one portion serving to eject the foul or impure air, and the other to inject or supply fresh or pure air to the building or apartment to be ventilated.

I am aware that the principle of constructing a ventilator, so as to perform the double function of aiding in withdrawing the foul air from a building, and supplying the latter with pure or fresh air is not new, and therefore I make no claim to such in the abstract, my invention consisting in the peculiar construction, combination, and arrangement of the parts of a ventilator, involving such principle as hereinafter described and claimed.

In the accompanying drawing, A denotes the foul-air pipe, which is of a cylindrical shape, arranged centrally, and extends through the body of the ventilator, and terminates at a short distance below the cap or dome B. C is another cylindrical pipe, which surrounds the pipe A, is open at top, and terminates at a distance below the upper end of the pipe A. The pipe C terminates at its lower end in an angular enlargement, *a*, which is closed and connected with the exterior of the pipe A, the object of such enlargement being to enable a series of connecting tubes or ports, *b b*, to be conveniently formed thereon to connect with pipes leading to the different rooms of a building. The space between the cylinders or pipes A and C constitutes an air-chamber, *o*, for the supply of pure air to the room or rooms. *c c'* are two perforated annular diaphragms or stays, which are disposed between the pipes A and C, and are soldered or otherwise suitably secured thereto, the same serving to maintain the parts in their relative positions, and at the same time time allow currents of air to freely pass down through the same. D D' are two conic frusta, which are united at their greater bases, the frustum D being perforated around its periphery or outer surface with two annular series of holes or air-inducts *d d'*. The lower part of the frustum D impinges against the exterior surface of the pipe C, and is connected therewith by soldering or otherwise. The top of the frustum D' is of a somewhat larger diameter than the pipe A, and terminates at a short distance below the upper end of the same. Within the frusta D and D' is disposed another frustum, E, whose upper end impinges against the pipe A, and is secured thereto by soldering, or in other suitable manner, the base of such latter frustum resting upon the frustum D, and midway between its two series of air-inlets *d d'*, before mentioned. By this arrangement of the frustum E, within the frusta D and D', it will at once be evident that the currents of air entering the outer series *d* of inlets will be caused to pass up directly around the superior end of the foul-air pipe, and thereby aid in the discharge of the foul air from such pipe, while the currents entering the inner series *d'* of inlets, and into the space between the frustum E and the pipe A, will be deflected downward by the frustum E into the mouth of the air-chamber *o* or space between the pipes A and C. The cap or dome B is supported upon rods extending up from the frustum D through the frustum D', and secured thereto and to the cap in any suitable manner.

The base of my improved ventilator is intended to be arranged in the attic or upper part of a building. The pipe A is to be connected with any suitable foul-air pipe or foul-air chamber. Suitable pipes are to be applied to the ports in the lower part of the air-supply chamber *o*, to extend down to any desirable room or rooms in the structure, and so as to enter such rooms at any desirable point or

position, whether at the top or side of the room, or through the floor thereof.

Having described my invention, what I claim is—

1. In a duplex ventilator, the combination of the pipes A and C, frusta D, D′, and E, constructed and arranged substantially as shown and described.

2. The annular perforated diaphragm or stays *c c′*, in combination with the pipes A and C, as and for the purpose set forth.

3. In a duplex ventilator, as described, a circumscribing air-induction chamber *o*, closed at bottom, and provided with one or more pipe-connectors, *b*, as and for the purpose set forth.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

PATRICK MIHAN.

Witnesses:
F. P. HALE,
F. C. HALE.