

P. MIHAN.  
VENTILATOR.

No. 195,832.

Patented Oct. 2, 1877.

Fig. 1.

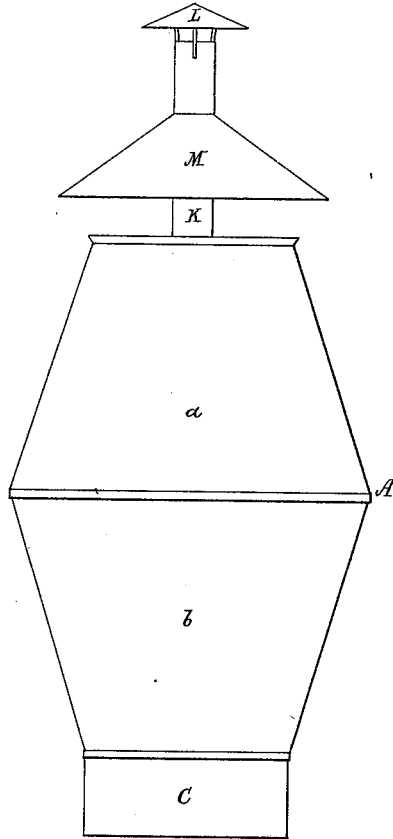


Fig. 2.

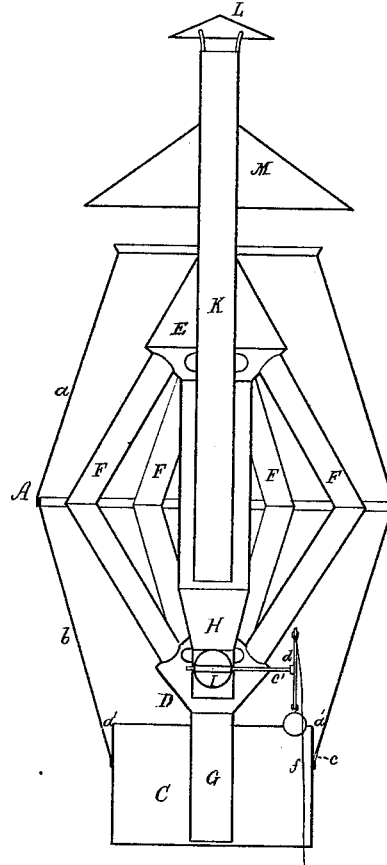
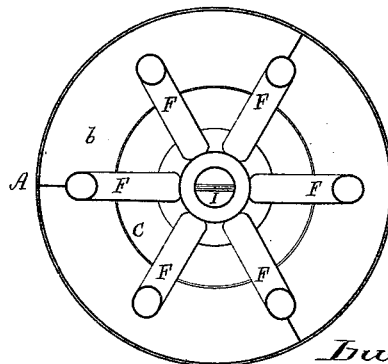


Fig. 3.



Inventor

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by his attorney

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Witnesses

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# UNITED STATES PATENT OFFICE.

PATRICK MIHAN, OF CAMBRIDGEPORT, MASSACHUSETTS.

## IMPROVEMENT IN VENTILATORS.

Specification forming part of Letters Patent No. **195,832**, dated October 2, 1877; application filed September 7, 1877.

*To all whom it may concern:*

Be it known that I, PATRICK MIHAN, of Cambridgeport, of the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Ventilators; and do hereby declare the same to be described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, Fig. 2 a vertical section, and Fig. 3 a horizontal section, of a ventilator embodying my invention.

My invention relates to or consists in an apparatus to be applied to a ventilating-flue to promote the draft thereof, by the employment of waste steam, one object being to utilize such steam, or obtain heat therefrom, and apply it in a manner to aid in effecting the ventilation of an apartment or building.

The body A of the said ventilator is composed of two hollow conic frusta, *a b*, united at their larger bases, the lower one being made to encompass and extend up from a tube, C, which for a short distance projects up into such frustum, in order to form with it a trough, *a'*, to catch any water that may pass down the inner surfaces of the frusta *a b*. Such trough has a hole, *c*, leading out of it, to discharge any water so intercepted, and prevent it from passing down the inner surface of the tube C.

Within the body A are two other such cases, D E, one of which is placed in the upper and the other in the lower part of the said body. These cases D E are connected by a series of bent pipes, F, leading out of one into the other. Furthermore, a tube, G, opens out of the bottom of the lower case D. Another tube, H, tapering at its lower part, projects within the case D, and extends upward therefrom to and opens into the bottom of the case E. There is a damper, I, in the lower part of the tube H, the spindle *c'* of such damper being provided with a lever, *d*, having a weight, *e*, at one end, and a chain or rope, *f*, fixed to the other end. The gravitating power of the

weight is to open the damper, which is to be closed by pulling on the rope.

A tube, K, arranged concentrically within the tube H, extending nearly to the lower end thereof, and upward through the case E to some distance above the case A, is surmounted by a conical hood, L, and has fixed to it another and larger conical hood, M. This latter hood is placed above the body A, and covers its upper open end.

The two cases D E and their series of connecting-pipes F, the pipe H, the exit-tube K, and the damper I constitute a radiator to heat the air in the body A. Waste steam from a steam-engine or other mechanism is to be used to heat the radiator, which, by radiating heat into the air within the body A, will cause such air to be rarefied, and to rise and induce an aerial current up through and out of the said body. Thus waste steam is to pass into the pipe leading down from the case D. Should the damper be closed, this steam will be caused to flow from the case D through the series of pipes F, and into the case E, and thence down the tube H, and into and through the tube K; but should the damper be open, the steam will pass off through the tube K without going through the radiator in the way as hereinbefore explained.

I claim—

1. For use in the body A, in manner and for the purpose described, the ventilator, substantially as set forth, composed of the two cases D E, the series of connecting-tubes F, the pipe H, damper I, and the descending and exit pipes H K, arranged and applied essentially as shown and described.

2. The combination of the two hoods L M, the body A, the pipes K H, damper I, cases D E, and their connecting-pipes F, arranged and applied substantially in manner and to operate as set forth.

PATRICK MIHAN.

Witnesses:

R. H. EDDY,  
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