

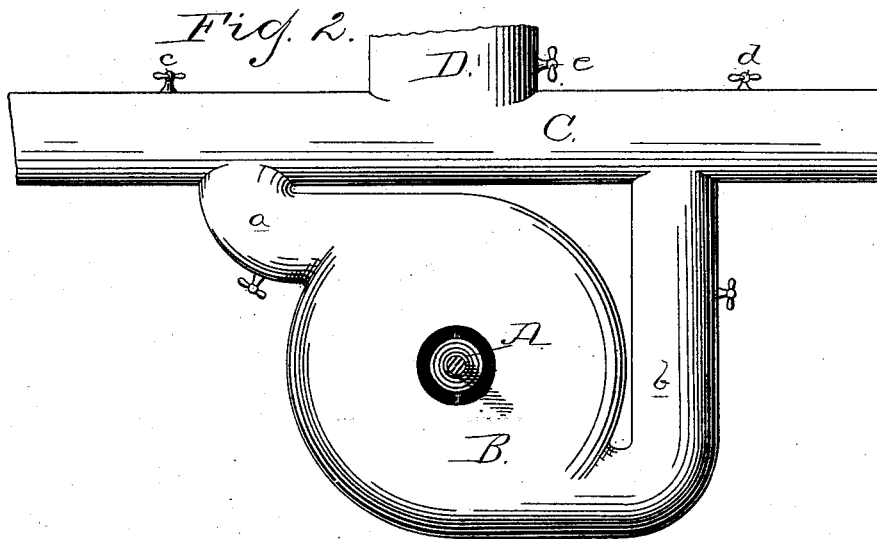
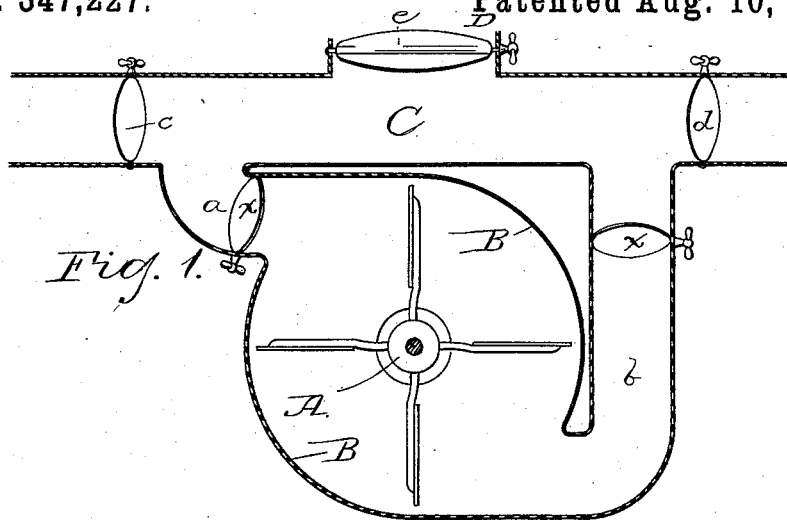
(No Model.)

G. CAMPBELL.

EXHAUST FAN.

No. 347,227.

Patented Aug. 10, 1886.



WITNESSES

Edward W. Schrach  
Herman T. Wackendoff

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INVENTOR  
James H. Byrne,  
By Attorney

# UNITED STATES PATENT OFFICE.

GEORGE CAMPBELL, OF TORONTO, ONTARIO, CANADA, ASSIGNOR TO  
EDWARD A. BLAKE, OF CHICAGO, ILLINOIS.

## EXHAUST-FAN.

SPECIFICATION forming part of Letters Patent No. 347,227, dated August 10, 1886.

Application filed October 2, 1885. Serial No. 178,797. (No model.)

### *To all whom it may concern:*

Be it known that I, GEORGE CAMPBELL, of Toronto, in the county of York, Ontario, Canada, have invented certain new and useful Improvements in Exhaust-Fans; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a double exhaust or exit fan which can direct at the same time a current of air through one, two, or three outlets.

In the drawings, Figure 1 is a vertical longitudinal section of my invention, and Fig. 2 is a side elevation of the same.

Reference being had to the drawings, A represents the fan, and B the case inclosing the same. Leading horizontally and tangentially from the upper part of the case B is an exhaust-pipe, *a*, and leading from the lower portion of the same is a similar exhaust-pipe, *b*. Both of the exhausts *a* and *b* lead to and open into the main pipe C, and leading vertically from the main C is an outlet, D. This outlet-pipe D is preferably placed midway between the exhausts *a* and *b*. The main C is provided with the valves *c* and *d* at points just beyond where the exhausts open into it, and the outlet-pipe D is also provided with a valve, *e*. When the fan is in motion, the air entering the central opening in the case surrounding the fan-shaft is expelled through the exhausts *a* and *b* in equal volumes into the main pipe C.

If the valves *c* and *d* be closed, and valve *e* in the outlet-pipe opened, the two currents of air will find a common outlet through pipe D. If valves *c* and *e* be closed and *d* opened, then the air will rush out of the main toward valve *d*; and if valves *e* and *d* be closed and *c* opened the air would rush out of the main C in the direction of valve *c*. If desired, any two of the aforesaid valves may be opened; or, should occasion find it necessary, all three.

If desired, valves *x x* may be placed in the exhaust-pipes *a* and *b*, leading from the fan-case. Thus the entire blast may be forced from the fan-case B from one or the other of the exhausts.

What I claim as new is—

1. In an exhaust-fan, the combination of the fan-case having two peripheral outlet-openings and central inlet-openings with the fan and fan-shaft which is concentric to said inlet-openings.

2. In an exhaust-fan, the combination of the fan-case having two peripheral outlets and central inlets and a main pipe, into which the pipes leading from said outlets empty.

3. The combination of an exhaust-fan the case of which has two exhaust-pipes, *a* and *b*, leading tangentially from the periphery thereof and having a central inlet-pipe, C, and outlet-pipe D.

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

GEORGE CAMPBELL.

Witnesses:

JAMES H. COYNE,

FRANK D. THOMASON.