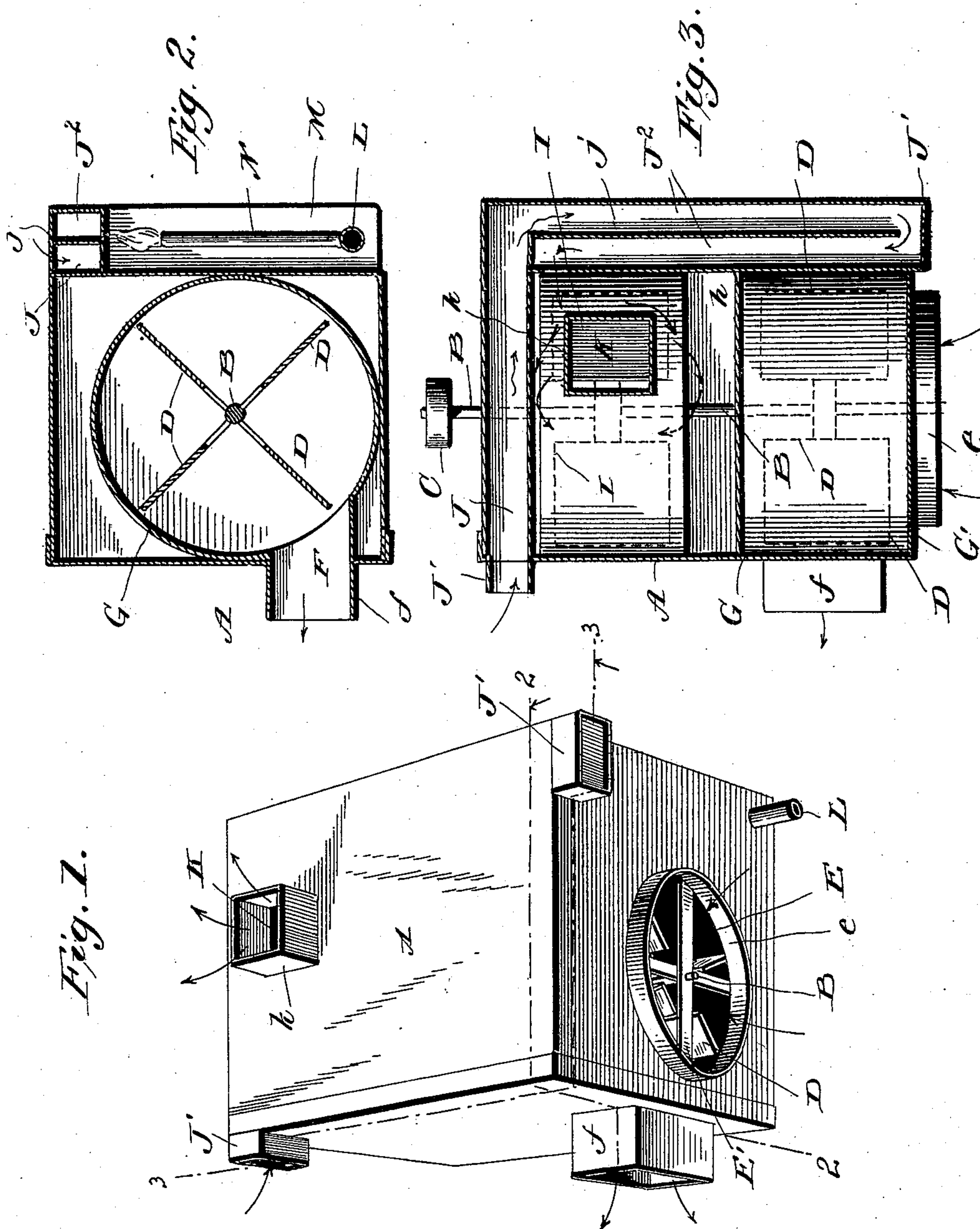


(No Model.)

A. J. F. MILLER.
VENTILATOR.

No. 574,619.

Patented Jan. 5, 1897.



Witnesses:
L. C. Hills.
E. A. Bond

Inventor:
August J. F. Miller
By Wm Walker
Atty

UNITED STATES PATENT OFFICE.

AUGUST J. F. MILLER, OF CENTRALIA, ILLINOIS, ASSIGNOR OF ONE-HALF
TO G. E. EIS, S. L. DWIGHT, A. H. RAINEY, AND O. V. PARKINSON, OF
SAME PLACE.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 574,619, dated January 5, 1897.

Application filed July 14, 1896. Serial No. 599,111. (No model.)

To all whom it may concern:

Be it known that I, AUGUST J. F. MILLER, a citizen of the United States, residing at Centralia, in the county of Marion and State of Illinois, have invented certain new and useful Improvements in Ventilators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-
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pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.
This invention relates to certain new and useful improvements in devices for ventilating a room, a car, or other compartment; and it has for its object, among others, to provide a simple and cheap portable device that can be readily set up in any desired position, supported on a bracket or other support; and it comprises a case within which are two fans run by an electric motor or by other means, if desired, the one fan drawing from inside the room or compartment and discharging the
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air outside the building or car, and the other fan drawing from outside the house or compartment and delivering into the room or car or compartment, the air being heated in its passage through the casing, or, when desired, the air may be forced into the room without being heated. The device occupies but little space, does not require that the house be built especially for its use, and can be run at just such times as desired.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.
The invention in this instance resides in the peculiar combinations and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of the device which constitutes my invention, looking at the top thereof. Fig. 2 is a section through

the same on the line 2 2 of Fig. 1, looking in the direction of the arrow. Fig. 3 is a section through the same on the line 3 3 of Fig. 1.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates a case of any suitable material, shape, and size, preferably rectangular, as shown.

B is a horizontal shaft mounted in suitable bearings in the side walls of the case, and at one end it is extended and carries a band wheel or pulley C, designed to receive its power from a motor, either from a battery or dynamo, neither of which, however, are here shown, but the same may be of any approved form and located at any desired point. This shaft carries two fans, which may be of any of the well-known forms of construction suited to the purpose. One of these fans D is located opposite the opening E, which is made in end of the case and is surrounded by the exterior rim or flange e, as seen in Figs. 1 and 3, the spider-arms E', which extend across this opening, receiving one end of the fan-shaft, as seen clearly in Fig. 1. This fan draws the air by suction from the room and discharges it through the opening F in the side of the case out of the house, the said opening being surrounded by the collar or projection f for the attachment of a conduit or other means through which the foul air may be conducted outside of the room, car, or compartment. The course of the air is indicated by the arrows. The fan D is inclosed within the cylindrical casing or chamber G, as shown, and from which the opening F communicates with the conduit f, as seen best in Fig. 2.

H is a cylindrical casing within the case A and separated from the chamber in which the fan D is located by the partition h, which forms also a portion of the cylindrical case or chamber of the fan D, as seen in Fig. 3. I is a fan within this casing and fast upon the shaft B. It takes the air from the outside of the building or car or other compartment through the flue or conduit J, which is arranged at the end of the case A, as shown, and connects with the flue J² at the side of the case and is shown as divided by a partition j, extending lengthwise thereof. The

flue J has a collar or projecting flange or portion J' for connection with the conduit which leads to the open air. These two conduits meet at one corner of the casing where the partition terminates, and at the other end it terminates at a distance from the end of the flue to form a passage for the air, as shown. The air enters the flue J, passes through the same and along the right-hand passage of the flue J², across the end and along the other passage, and then passes into the fan, the course of the air being indicated by the arrows in Figs. 1 and 3, being discharged into the room through the opening K in the top of the case A, which is shown as surrounded by the flange k. (See Fig. 1.)

L is a pipe supported in the walls of the case A, or, as seen in Fig. 2, it may be in the extensions M thereof beneath the transverse flue or conduit J, and from this pipe may extend any desired number of burners or jets N for gas, gasolene, or any other source of flame, which is designed to heat the air in its passage through the conduits before it enters the fan-casing H.

The operation will be apparent. The device is set up in any desired position or place and the motor connected by belt with the pulley C, and the connections with the inlet and outlet openings being made the motor is set in motion and the two fans are rotated, the one sucking in the air, as described and as indicated by the arrows, and the other forcing the foul air from the room, as described and as represented by the arrows, and thus the air in the room or compartment is kept pure and in circulation, and when the gas-jets are lighted the air will be heated before it is discharged into the room or other compartment.

What is claimed as new is—

1. A portable device for the purpose described, comprising a casing, a rotatable shaft mounted therein, two independent fans on said shaft one for forcing fresh air through the casing into a room and the other for forcing the foul air from the room through said casing, a cylindrical casing within the outer casing and a partition forming a part of said

cylindrical casing and separating the same from the fan-chamber, substantially as described.

2. A portable device for the purpose described, comprising a casing, a rotatable shaft mounted therein, two independent fans on said shaft, and a heater for heating the air before it enters said fan-casings and a divided flue over said heater closed at one end, as set forth.

3. A portable device of the character described, comprising a casing, having a partition, two independent fan-casings within the same, a rotatable shaft, a fan thereon in each fan-casing, an inlet to one of the said fan-casings from the room and an outlet therefrom, and conduits leading from the open air to the other fan-casing, and an outlet therefrom into a room, substantially as specified.

4. The combination of the casing with its inlet and outlet openings and the flues at right angles to each other and communicating and meeting at one corner of the casing, one of said conduits divided longitudinally, a shaft, two independent fans thereon, and a heater arranged beneath said divided flue, all substantially as and for the purpose specified.

5. The portable device herein described comprising a casing, a shaft extending there-through, a pulley on said shaft, two independent fans on said shaft one to draw air in and the other to force it out, one fan being opposite an opening in the end of the casing, a flange around said opening, a partition in the casing between the fans forming a portion of the case of one of the fans, the conduit J, the flue J² communicating therewith, the partition in said flue, said flue and conduit uniting at one corner of the casing at the point where said partition terminates, and a heater beneath the flue, all substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

AUGUST J. F. MILLER.

Witnesses:

O. V. PARKINSON,
G. E. EIS.