

C. H. GIFFORD.
VENTILATING APPARATUS.
APPLICATION FILED AUG. 11, 1909.

1,019,780.

Patented Mar. 12, 1912.

2 SHEETS—SHEET 1.

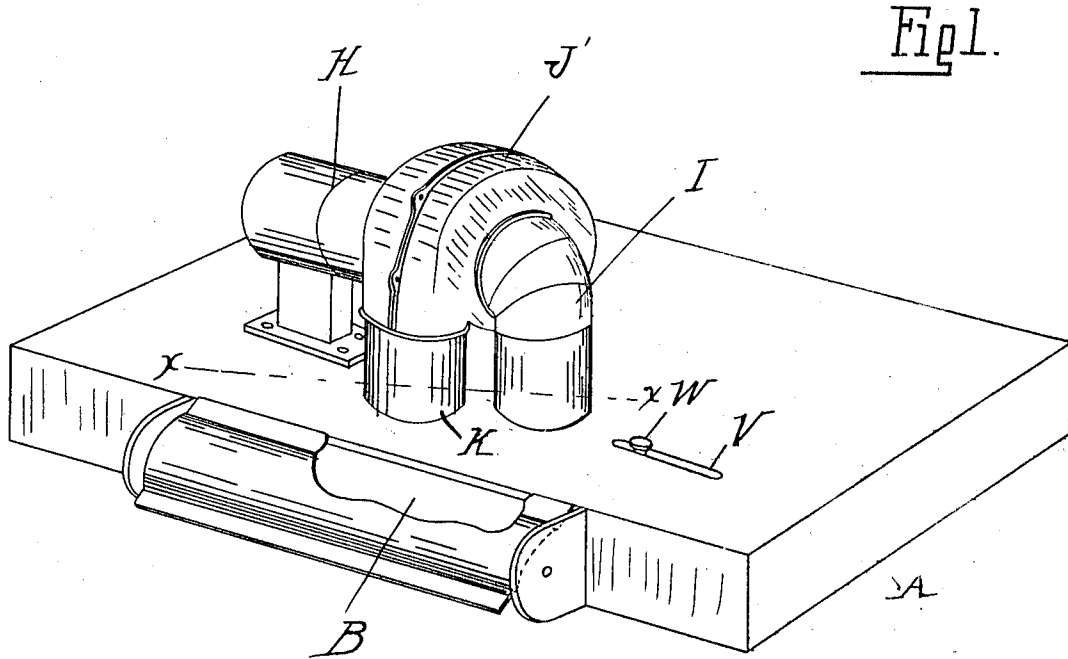


Fig 5.

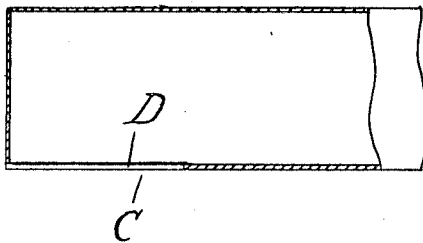
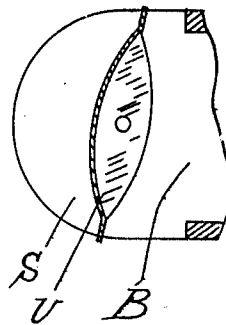


Fig 4.



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2 SHEETS—SHEET 2.

Fig. 2.

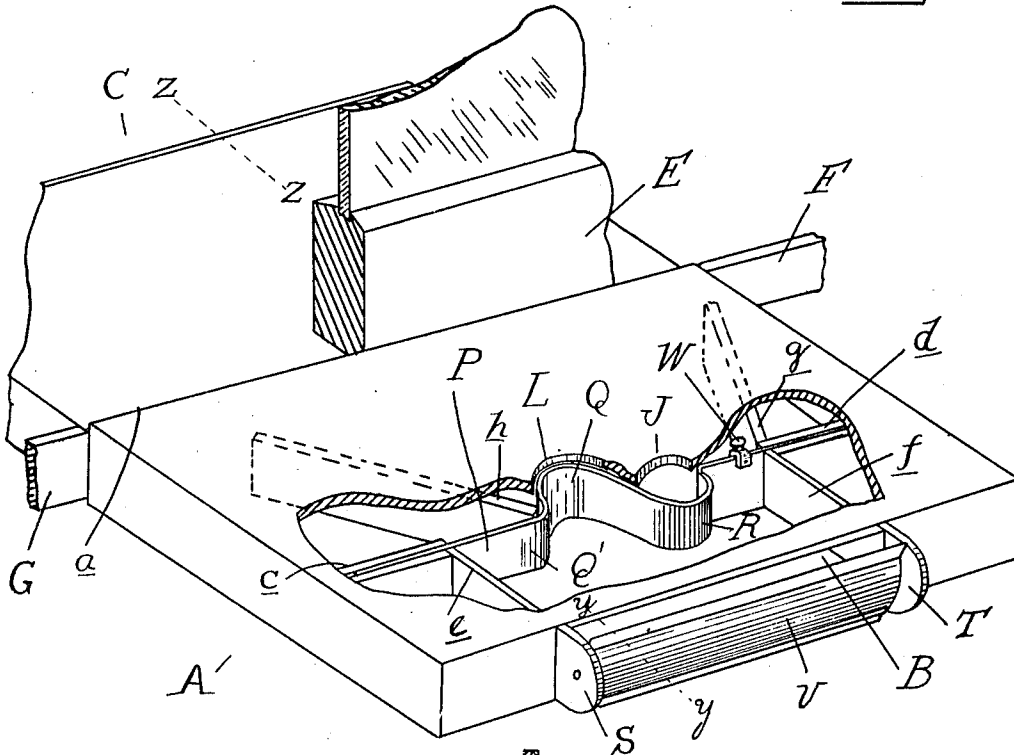
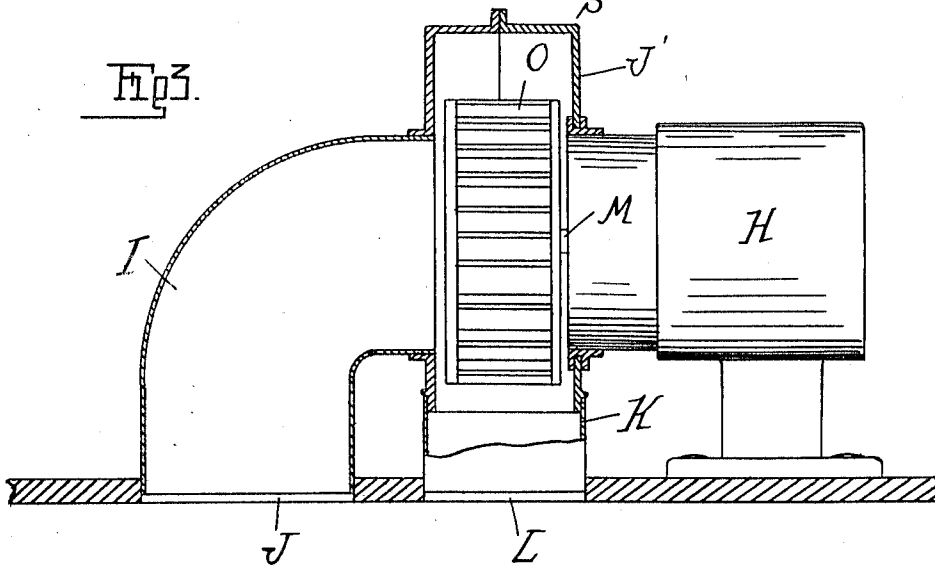


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES H. GIFFORD, OF DETROIT, MICHIGAN, ASSIGNOR TO AMERICAN BLOWER COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

VENTILATING APPARATUS.

1,019,780.

Specification of Letters Patent.

Patented Mar. 12, 1912.

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To all whom it may concern:

Be it known that I, CHARLES H. GIFFORD, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Ventilating Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to ventilating apparatus, particularly designed for use in dwellings or offices, and consists in the general construction thereof; further, in a portable form of apparatus designed to be applied to the window; and, still further, to the peculiar arrangement and combination of the various parts, and in details of construction, as will be more fully hereinafter set forth.

In the drawings,—Figure 1 is a sectional perspective view of apparatus embodying my invention; Fig. 2 is a similar view, showing the construction of interior parts; Figs. 3 and 4 are sections taken on lines $x-x$ and $y-y$ respectively of Figs. 1 and 2; Fig. 5 is a longitudinal section through the inlet end of the air conduit, taken on line $z-z$ of Fig. 2.

In construction, the apparatus comprises an air conduit A, in the form of an elongated box having a discharge opening B at its front end, and an inlet opening C formed within the lower face of the outer end, as shown in Fig. 5, the intake being preferably covered by a cloth screen, as D, to purify the incoming air. The box is of a length to rest upon the window sill within the room, and to project outwardly beyond the window for some little distance. It is formed with a shoulder a , against which the window sash E abuts when the apparatus is in place.

F G are filling strips for closing the space between the window sash and sill on opposite sides of the air conduit.

Mounted upon the inwardly projecting portion of the conduit is a motor H of any suitable construction, and to one side of the motor and at a distance therefrom is arranged a stationary intake pipe I communicating with the interior of the air box through an opening J formed in its top wall. Arranged intermediate this pipe and the motor, and mounted on each for rock-

ing movement, is a fan casing J', provided with a discharge pipe section K adapted to be rocked into or out of registration with a discharge opening L formed in the box top adjoining the opening J.

M designates the motor shaft extending within the fan casing, and Q is the fan, a detail description of which will be omitted as it forms no part of the present invention.

Within the air box is arranged means, preferably in the form of a slide P, for causing the air current produced by the fan to pass longitudinally through the conduit, and this slide is so constructed that upon operation the direction of travel of the air current may be changed so that air may be forced into the room or exhausted therefrom, as desired, this latter method of ventilating being desirable at times in order to expel smoke or other gases. The slide, hereinafter termed the current director, is adapted to travel between pairs of guides $c d$ within the air box, and is formed with complementary bends Q R immediately adjacent one another, oppositely disposed and arranged to register with the box openings J and L, as shown in Fig. 2. Within the box and extending forwardly of the current director are partitions $e f$, leading from the pairs of guides described to the discharge opening B, and extending rearwardly from the guides are similar partitions $g h$, which in addition to serving as air guides serve as stops limiting the endwise travel of the director.

Projecting forwardly from the air box front are extensions S T, and pivoted within these extensions is a deflector U in the form of a plate mounted within the extensions at a distance from the box front, adapted to be partially revolved to bring its edge portions into contact respectively with the upper or lower edges of the air conduit.

An elongated slot V is formed in the upper wall of the air box, through which projects an operating handle W for and connected directly to the slide.

Assuming the fan to be in operation, and the current director in the position indicated in the drawings, air will be drawn in the air box through its inlet and discharged through the opening B. The direction of the air discharge is regulated by the deflector U, the discharge being upwardly

when the deflector is in the position shown in Fig. 2, or in the opposite direction as indicated in Fig. 1. If it is desired to ventilate the room by exhausting air therefrom, the slide is shifted by the operator, bringing the bend Q in registration with the opening J and a straight portion Q' in advance of the opening L. Air is then drawn within the air box through the opening B, and is discharged to the rear of the current director through the outer opening in the air conduit.

From the foregoing description, it will be obvious that the apparatus may be readily applied to any window in the dwelling or office that is to be ventilated, and the change in the direction of the current may be easily effected so as to cause the air to be discharged within the room or exhausted therefrom. If it is desired to have the air discharged directly into the room, instead of indirectly through the box, the operator is required merely to rock the fan casing, disconnecting its discharge pipe from the air conduit, and directing the air discharge at the desired point.

What I claim as my invention is,—

1. In a ventilating apparatus, the combination with an air box open at opposite ends, of power-operated air propelling mechanism mounted upon the box and having inlet and discharge ducts leading within its interior, and a slide within the box formed with adjoining and oppositely-extending bends adapted to register with the ducts.

2. In a ventilating apparatus, the combination with an air box open at opposite ends, of a motor, and a fan operated thereby mounted upon the box, the fan being provided with intake and discharge ducts leading within the box interior, and means within the box intermediate the ducts for controlling the passage of air through the box.

3. In a ventilating apparatus, the combination with an air box having an inlet and an outlet and complementary openings therebetween, of a rotatable fan casing upon the box connected with one of the complementary openings and carrying a discharge pipe adapted upon the rocking of the casing to be moved into or out of registration with the other opening of the box, a fan within the casing, and a motor for operating the fan.

4. In a ventilating apparatus, the combination with an air box open at opposite ends, of power operated air propelling mechanism mounted upon the box and having inlet and discharge ducts leading within its interior, and a single shiftable current directing member within the box for

reversing the direction of travel of the air current through said box.

5. In a ventilating apparatus, the combination with an air box having inlet and outlet openings, guides within the box leading to one of said openings and having extensions projecting without the box, a fan operatively associated with the box, a motor for said fan, and a deflector plate pivoted between said extensions.

6. In a ventilating apparatus, the combination with an air conduit having inlet and outlet openings and an opening intermediate the inlet and outlet, of a rotatable fan casing having inlet and discharge ducts, one of said ducts being in communication with the air conduit and the other being adapted upon the rocking of the casing to be moved into or out of registration with said intermediate opening, and a fan within the casing.

7. In a ventilating apparatus, the combination with an air box having inlet and outlet passages and complementary openings therebetween, of a rotatable fan casing upon the box provided with inlet and outlet conduits, one of said conduits being in communication with one of said box openings, and the other of said conduits being adapted upon the rocking of the casing to be moved into or out of registration with the other opening, and a fan within the casing.

8. In a ventilating apparatus, the combination with an air box having inlet and outlet passages, of a partition intermediate said passages dividing the box into complementary chambers, and a fan provided with intake and discharge openings communicating upon opposite sides of the partition respectively with said complementary chambers, said partition including means for alternating communication between said intake and discharge openings and said complementary chambers.

9. In a ventilating apparatus, the combination with an air box having inlet and outlet passages, of a partition intermediate said passages dividing the box into complementary chambers, a fan mounted upon the box and provided with intake and discharge ducts leading within the box and communicating upon opposite sides of the partition respectively with said complementary chambers, said partition including means for alternating communication between said intake and discharge ducts and said complementary chambers.

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

CHARLES H. GIFFORD.

Witnesses:

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