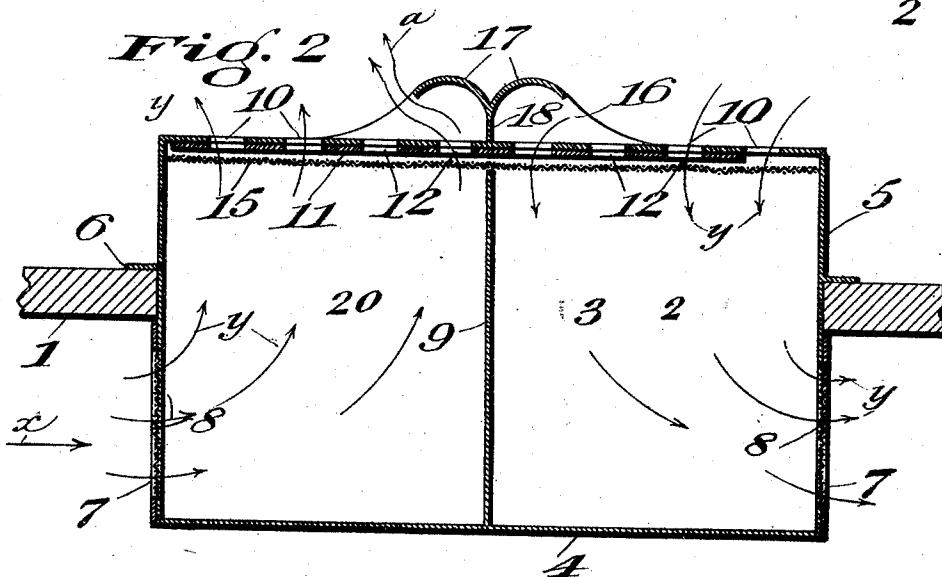
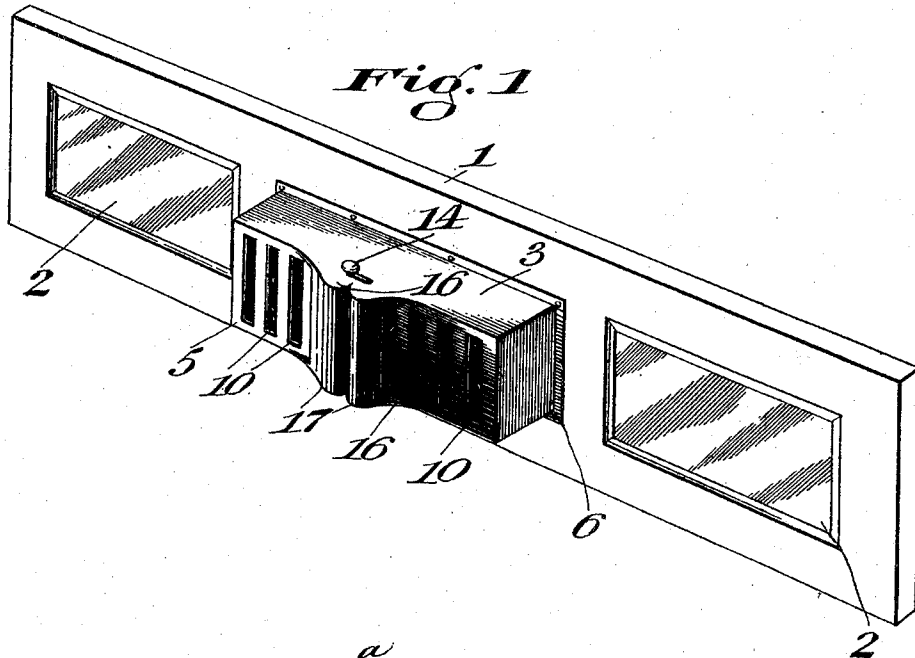


H. A. DIRKES.
WINDOW VENTILATOR.
APPLICATION FILED JUNE 1, 1908.

967,346.

Patented Aug. 16, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY A. DIRKES, OF NEW YORK, N. Y.

WINDOW-VENTILATOR.

967,346.

Specification of Letters Patent.

Patented Aug. 16, 1910.

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To all whom it may concern:

Be it known that I, HENRY A. DIRKES, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain Improvements in Window-Ventilators, of which the following is a specification.

This invention relates to certain improvements in ventilators, and more particularly in that class of such devices which are adapted for employment at the windows and similar openings of buildings and other structures for the admission of pure and fresh air thereto, and the object of the invention is to provide a ventilator of this character of a simple and comparatively inexpensive construction having means of an improved and simplified nature for the discharge of the foul or vitiated air simultaneously with the admission of the pure air, and which shall be adapted for the admission of air at such a reduced and equalized pressure as to avoid the possibility of exposure of persons within the building or other structure to drafts.

The invention consists in certain novel features of the construction, and combinations and arrangements of the several parts of the improved ventilator, whereby certain important advantages are attained and the device is rendered simpler, less expensive, and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings which serve to illustrate my invention—Figure 1 is a perspective view showing a ventilator embodying one form of my improvements, and Fig. 2 is a sectional view drawn to an enlarged scale and taken horizontally through the improved ventilator as shown in Fig. 1.

In these views I have shown my improvements embodied in a ventilator of that type wherein the casing and various operative parts of the device are mounted upon a board or supporting member 1 adapted to be extended across the window opening and held in position by the engagement of the sash rail thereon in a well known way, but I do not desire to be understood as limiting myself to the employment of my improvements in connection with a ventilator

of this particular type. As herein shown, the supporting member 1 is provided with glass or other panels 2, 2, at opposite sides of the casing 3 of the ventilator, in order that the window may be darkened as little as possible.

The casing of the improved ventilator, herein indicated as a whole at 3, is formed from thin metal, and is so positioned upon the supporting member 1 that one portion 4 of said casing is caused to project beyond said member at the outer side of the window, while the opposite portion 5 of the casing 3 is caused to project from the inner surface of said member so as to be adapted for location within the building or other structure to which the improved ventilator is applied for use. In order to facilitate the attachment of the casing 3 to the supporting member, the said casing is herein shown provided with an angular flange 6 projecting around its walls and adapted to be lapped flush and secured in any desired way upon the inner surface of said member.

Viewing the casing 3 when in position for use, its outer projecting portion 4 is provided with openings or ports 7, 7 at its opposite ends, with wire screens or similar foraminous parts extended thereacross in such a manner as to permit the admission and discharge of air at the respective opposite ends of said outer casing portion 4 while said screens 8, 8 serve to intercept trash, such as leaves, cinders, etc., and thereby prevent the air passages of the ventilator from becoming clogged and also prevent a great portion of the dust and solid impurities carried by the external air from entering the building or other structure to which the ventilator is applied.

At the central part of the casing 3, the interior thereof is divided by a vertical partition or division wall 9 into two conduits or air passages 20, 20 located, respectively, adjacent to the opposite ends of said casing in such a manner that each of said conduits or passages is adapted for communication with one of the ports or openings 7, 7 at the opposite ends of the outer casing portion 4. The said transverse partition or division wall 9 is extended across both the outer casing portion 4 and the inner casing portion 5, and serves to effectively prevent the air entering at one of the ports or openings 7 from traversing the interior of the casing

and escaping at the port or opening 7 at the opposite end of said casing.

The front wall of the inner casing portion 5 is apertured as shown at 10 on the drawings in such a manner that the air entering one of the air conduits or passages 20 of the casing at the port or opening 7 of the outer casing portion 4 which communicates with such conduit or passage is conveyed inwardly through the inner portion 5 of said casing and is discharged through said apertured front wall into the interior of the building or structure to be ventilated, whereas the foul air within such building or structure is permitted at the same time to pass through the apertures 10 of the opposite end of the front wall of the inner casing portion 5 into the conduit or passage 20 at the opposite end of the casing, and to traverse the same and escape outside the building through the port or opening 7 communicating with such last-mentioned conduit 20.

The end of the casing whereat the air will be admitted into the building will depend upon the direction of the wind. Considering the direction of the wind to be as indicated by the arrow *x* in Fig. 2, I have indicated by the arrows *y* the course of the entering and outgoing air currents through the conduits or passages 20, 20, of the ventilator.

In order to permit of regulating the admission and discharge of air through the improved ventilator, I have shown the front wall of the inner casing portion 5 provided with a plurality of the apertures 10, 10, and have provided a valve or register 11, arranged to slide along the inner side of said front wall and apertured as shown at 12 to permit it to be moved to partially or completely cover the said openings 10 of the inner casing portion 5. This valve or damper is adapted to be operated by means of a handle 14, playing in a slot at the upper part of the casing, as shown in Fig. 1. Other forms of regulating means may, however, be substituted for the valve structure herein shown without departure from my invention.

15 represents a screen of wire netting or other foraminous material extended across the inner casing portion 5 from end to end closely adjacent to the valve 11 in such a manner as to assist in intercepting foreign substances and cleanse the air entering the building through the improved ventilator.

16, 16 represent parts at top and bottom of the inner casing portion 5 which are extended inwardly beyond the apertured front wall thereof, and 18 represents a deflector integrally or otherwise produced upon said projecting portions 16, 16, and vertically extended across the front wall of the casing with an edge portion alined with the forward edge of the transverse partition 9,

while the opposite portion of said deflector 18 is bifurcated, its forks or extensions 17, 17, being reversely curved or bent in such a manner that the air entering the building by way of one of the compartments or conduits 20 is deflected laterally by contact with said bent or curved extension 17 as indicated by the arrows at *a* and is thereby compelled to circulate through the building and is prevented from being directly discharged therefrom through the conduit or passage 20 at the opposite end of the casing.

From the above description of my improvements it will be evident that the ventilator constructed according to my invention is of an extremely simple and comparatively inexpensive nature and is particularly well adapted for use by reason of the facility with which the vitiated or foul air may be discharged from the structure to which it is applied simultaneously with the admission of the fresh pure air to such structure, and it will also be obvious from the above description that the device is susceptible of considerable modification without material departure from the principles and spirit of the invention and for this reason I do not desire to be understood as limiting myself to the precise formation and arrangement of the several parts of the improved ventilator as herein set forth in carrying out my invention in practice.

Having described my invention, what I claim and desire to secure by Letters Patent is:

1. A ventilator having a supporting member, a hollow casing carried thereby with opposite projecting portions adapted for location respectively at the inside and outside of a structure to be ventilated, a fixed vertical partition extended transversely across the casing and dividing the same into two conduits each extended across both the inner and outer casing portions, ports at opposite ends of the outer casing portion for admission and discharge of air to and from the respective conduits, the combined transverse width of said ports being substantially equal to the length of the outer and inner casing portions, and a single register capable of sliding movement across the inner ends of both conduits at the inner casing portion, and adapted, when moved, to simultaneously regulate the admission and discharge of air at the respective conduits.

2. A ventilator having a supporting member, a hollow casing carried thereby with oppositely projecting portions adapted for location, respectively at the inside and outside of a structure to be ventilated, a fixed vertical partition extended transversely across the casing and dividing the same into two conduits each extended across both the inner and outer casing portions, ports at opposite ends of the outer casing portion for

admission and discharge of air to and from the respective conduits, the combined transverse width of said ports being substantially equal to the length of the outer and inner casing portions, and a deflector carried by the inner casing portion in alinement with the inner part of the partition and having oppositely arranged extensions which are reversely directed from the opposite sides of the partition to deflect the air discharged from one conduit away from the inner end of the other conduit.

3. A ventilator having a supporting member, a hollow casing carried thereby with oppositely projecting portions adapted for location, respectively at the inside and outside of a structure to be ventilated, a fixed vertical partition extended transversely across the casing and dividing the same into two conduits each extended across both the inner and outer casing portions, ports at opposite ends of the outer casing portion for admission and discharge of air to and from the respective conduits, a deflector carried by the inner casing portion in alinement with the inner part of the partition and having oppositely arranged extensions which are reversely directed from the opposite sides of the partition to deflect the air discharged from one conduit away from the inner end of the other conduit, and a single register movable across the inner ends of both conduits at the inner casing portion and adapted, when moved, to simultaneously

regulate the admission and discharge of air at the respective conduits.

4. A ventilator having a supporting member, a hollow casing carried thereby with opposite projecting portions adapted for location respectively at the inside and outside of a structure to be ventilated, a fixed vertical partition extended transversely across the casing and dividing the same into two conduits each extended across both the inner and outer casing portions, ports at opposite ends of the outer casing portion for admission and discharge of air to and from the respective conduits, a deflector alined with the inner end of the vertical partition and having oppositely arranged extensions projecting beyond the inner casing portion and reversely directed beyond the sides of the partition to deflect the air discharged from one conduit away from the inner end of the adjacent conduit, and a single register movable across the inner ends of both conduits at the inner casing portion and adapted, when moved, to simultaneously regulate the admission and discharge of air at the respective conduits.

In witness whereof I have hereunto signed my name this 29 day of May 1908, in the presence of two subscribing witnesses.

HENRY A. DIRKES.

Witnesses:

A. F. CONNELL,
J. D. CAPLINGER.