

F. G. BATE.
VENTILATOR.

APPLICATION FILED FEB. 24, 1902.

NO MODEL.

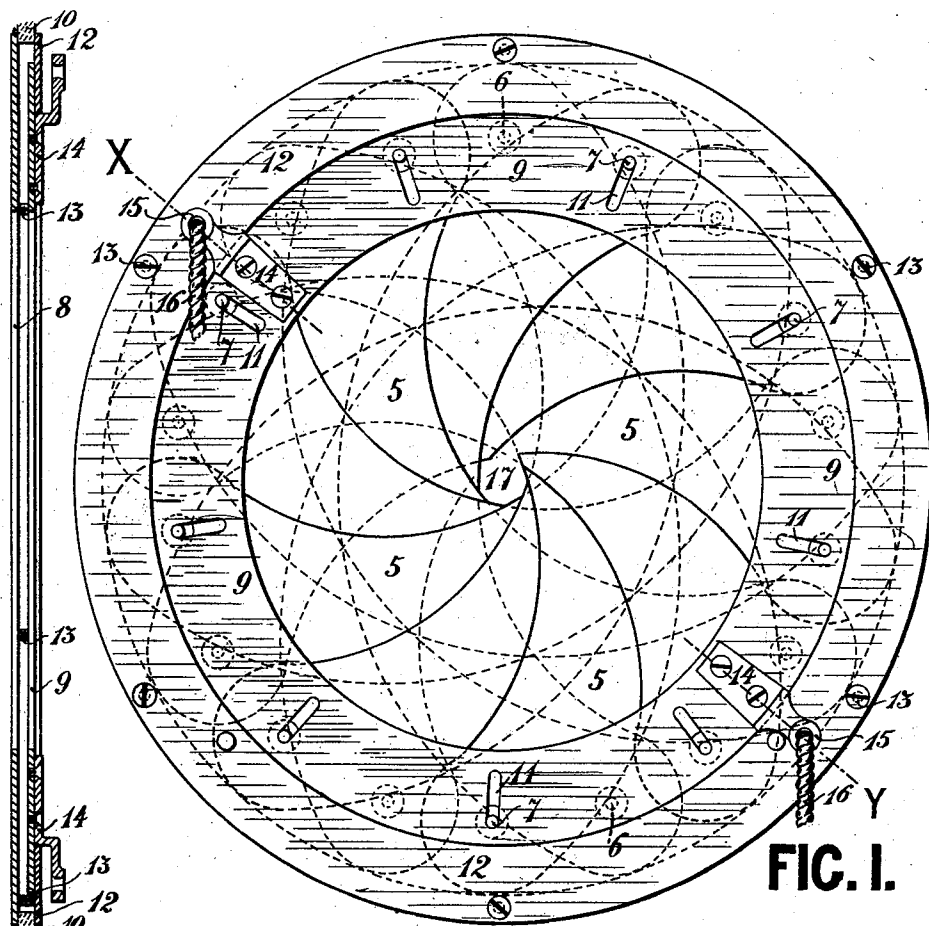


FIG. 1.

FIG. 4.

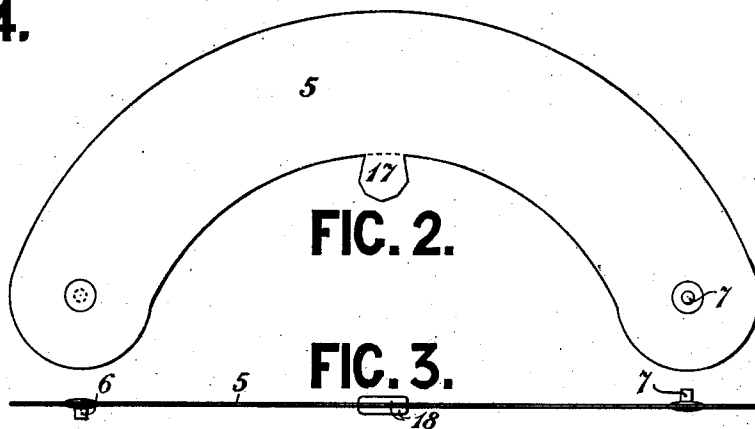


FIG. 2.

FIG. 3.

Witnesses:
A. Puller.
H. Imrie

Inventor
F. G. Bate

UNITED STATES PATENT OFFICE.

FREDERIC GEORGE BATE, OF LONDON, ENGLAND, ASSIGNOR OF TWO-THIRDS
TO JOHN WALTON, OF SHREWSBURY, ENGLAND, AND CHARLES BAUER,
OF LONDON, ENGLAND.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 745,313, dated December 1, 1903.

Application filed February 24, 1902. Serial No. 95,329. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC GEORGE BATE, a subject of the King of Great Britain and Ireland, residing at 61 Fore street, London, England, have invented a new and useful Ventilator, of which the following is a specification.

This invention has reference to ventilators for ventilating rooms or other places; and the object of my invention is to construct a ventilator which will open and close centrally and which can be made more cheaply than those revolving ventilators known as the "hit-and-miss" ventilators.

My invention consists in the employment of a number of vanes or the like each having two pins or equivalents projecting therefrom, one such pin projecting at a suitable position from one side and the other pin from the opposite side of each such vane. The series of vanes is situated between two comparatively large washers or disks having a central aperture, and each of the vanes is pivoted to one of such washers or disks by one of the pins referred to, while the other pin of each of said vanes enters a slot or groove in the other washer or disk, the arrangement being such that if one of the washers or disks be fixed or held stationary and the other washer or disk be rotated in one direction the vanes will be swung so that they close together about centrally of the aperture in the disks, the ventilator being in this position closed. If then the movable washer or disk be rotated in the opposite direction, the vanes will be swung to their original position and the ventilator opened.

In order that my invention may be readily understood, I make reference to the accompanying drawings, in which—

Figure 1 is a front elevation of my improved ventilator when closed. Figs. 2 and 3 show a plan and edge view, respectively, of one of the vanes; and Fig. 4 is a sectional view on line X Y of Fig. 1, the vanes being omitted for the sake of clearness.

In carrying my invention into practice I employ a series (in the example illustrated there are nine) of vanes or blades 5, which are nearly semicircular in shape and which are provided at about each end with pins 6, 7,

one of which projects on one side and the other on the opposite side of the vane. I also employ two washers or equivalents 8, 9, the former of which is formed with a series of apertures adapted to receive the pins 6 of the vanes, and the latter washer is formed with a corresponding series of preferably radial slots 11, into which the pins 7 of the vanes are inserted, the arrangement being such that if the washer 8 be held stationary and the washer 9 be rotated in one direction the vanes will be caused to swing across the opening in the washers, as shown in Fig. 1, and if then the washer 9 be rotated in the reverse direction the vanes will be swung back, so as to be completely between said two washers. In this latter position the ventilator is open to its full extent.

Fig. 4 shows a simple method of fixing my improved ventilator to a window. The glass of the latter, 10, has an aperture of sufficient diameter cut out in it. The washer 8 is slightly larger and the washer 9 slightly smaller than said aperture, so that if the vanes be pivoted on the washer 8 and the slots in the washer 9 engaged with the pins 7 the ventilator may be inserted from one side of the window until its washer 8 comes in contact therewith. I next place a ring 12 against the washer 9 and secure said ring to the washer 8 by screws 13, so that the glass will be gripped between the edges of the washer 8 and the ring 12. I provide the washer 9 with two or more guide-pieces 14, which abut against the ring 12 so, that said washer must rotate centrally within said ring, and in order that my improved ventilator may be operated from a distance I form two of said guide-pieces with eyes 15, to which I attach the ends of a cord 16, the arrangement being such that by pulling the right-hand end of said cord the washer 9 will be rotated to close the ventilator, as shown in the drawing, and by pulling the left-hand end of said cord the ventilator will be opened.

As the vanes 5, owing to their thickness, cannot in practice be completely closed, I provide one of them with a lug or equivalent 17, which when the vanes have been nearly completely closed together will fill up the small central opening, which would otherwise

be left open. This lug may be left plain or it may have a disk 18, of rubber or other suitable material, fixed on each side against which the other vanes will abut when the ventilator is closed, thus insuring a perfect closure.

The vanes 5 may be made of metal, wood, glass, mica, celluloid, or any other suitable material. I prefer to make them of transparent celluloid, because they can be cheaply and easily made and do not form any serious obstruction to the light, and, further, if, say, some of the vanes be made of blue, others of red, and the remainder of yellow transparent celluloid these colors when the ventilator is partly or completely closed and the vanes are therefore superposed will form pretty combinations of colors more or less kaleidoscopic in effect, thus rendering my improved ventilator suitable in many places—for example, in stained-glass windows—where any other ventilator would be unsightly.

If desired, the vanes 5 may have cork, felt, or other suitable material fixed along their edges to insure a perfect closure or fit between them, and said vanes may each consist of a metal frame having mica, glass, celluloid, or other suitable material fixed therein.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A ventilator adapted to be opened concentrically, consisting in combination of a washer 8 having an opening or aperture equal to the maximum size of the opening of which the ventilator is capable, a comparatively narrow ring 12 whose inner diameter is considerably greater than that of the washer 8, screws 13 arranged concentrically near the edge of and passing through the ring 12 and screwing into screwed apertures in the washer 8, a washer 9 immediately under the ring 12

fitting loosely and rotatable within the concentrically-arranged screws 13 and whose opening or aperture is equal to that of the washer 8, guide-pieces 14 fixed to said washer 9 and fitting against the inner periphery of the ring 12, eyes 15 on said guide-pieces, a series of segmental vanes 5 having semicircular ends, their outer and inner peripheries concentric and whose width is equal to the width of the washer 9, studs 6 and 7 fixed to said vanes and projecting from opposite sides thereof, the studs 6 being at the center from which the semicircle of one end is struck and the studs 7 at the center from which the semicircle of the other end is struck, a series of equally-spaced apertures in the washer 8 into which the studs 6 are entered, a corresponding series of equally-spaced radial slots in the washer 9 into which the studs 7 are entered, a lug 17 on one of the vanes 5, and stops fixed on the ring 12, all for the purposes and substantially as set forth.

2. In a ventilator adapted to open concentrically, vanes 5 having semicircular ends, their outer and inner peripheries concentric and provided with studs 6 and 7 projecting from opposite sides thereof, one stud being at the center from which the semicircle of one end of the vane is struck and the other stud being at the center from which the semicircle of the other end of the vane is struck, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

F. G. BATE.

Witnesses:

A. PULLER,
HY. JONES.