

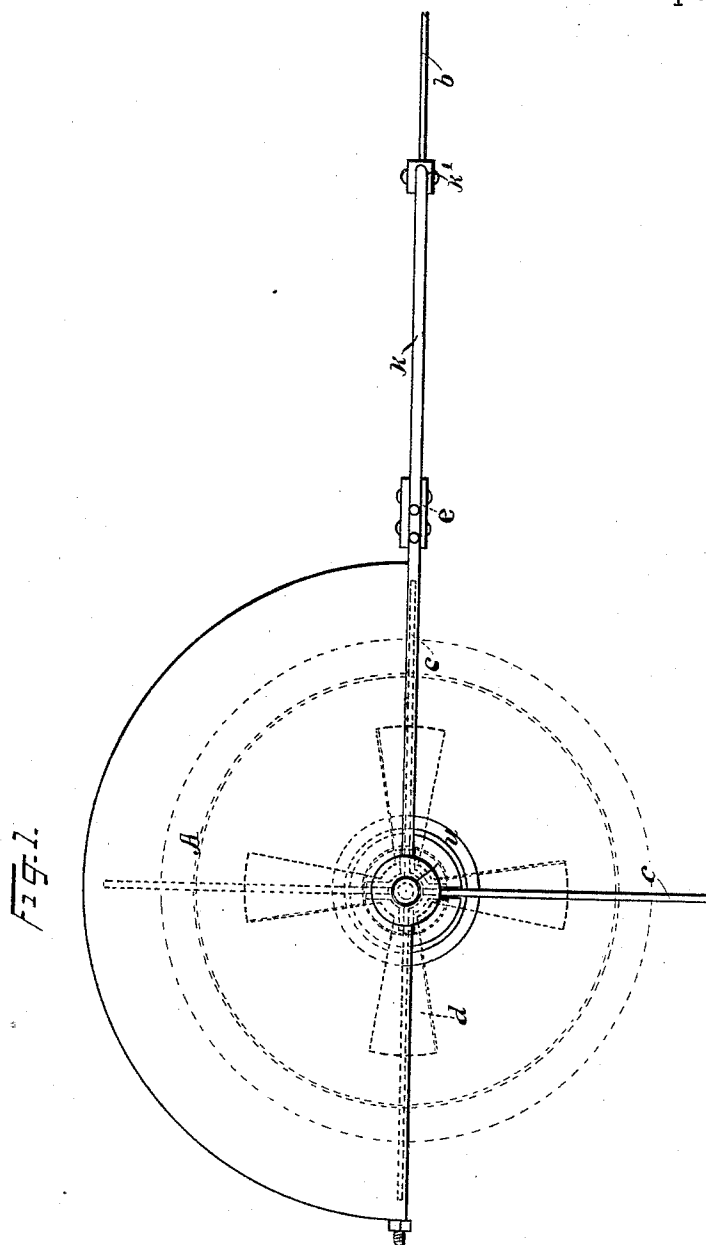
(No Model.)

W. J. FELLHEIMER.  
VENTILATOR.

2 Sheets—Sheet 1.

No. 436,701.

Patented Sept. 16, 1890.



WITNESSES:

*Edward Wolff*  
*William H. Miller*

INVENTOR

*Witley J. Fellheimer.*

BY

*Van Santvoord & Hauff*

ATTORNEY.

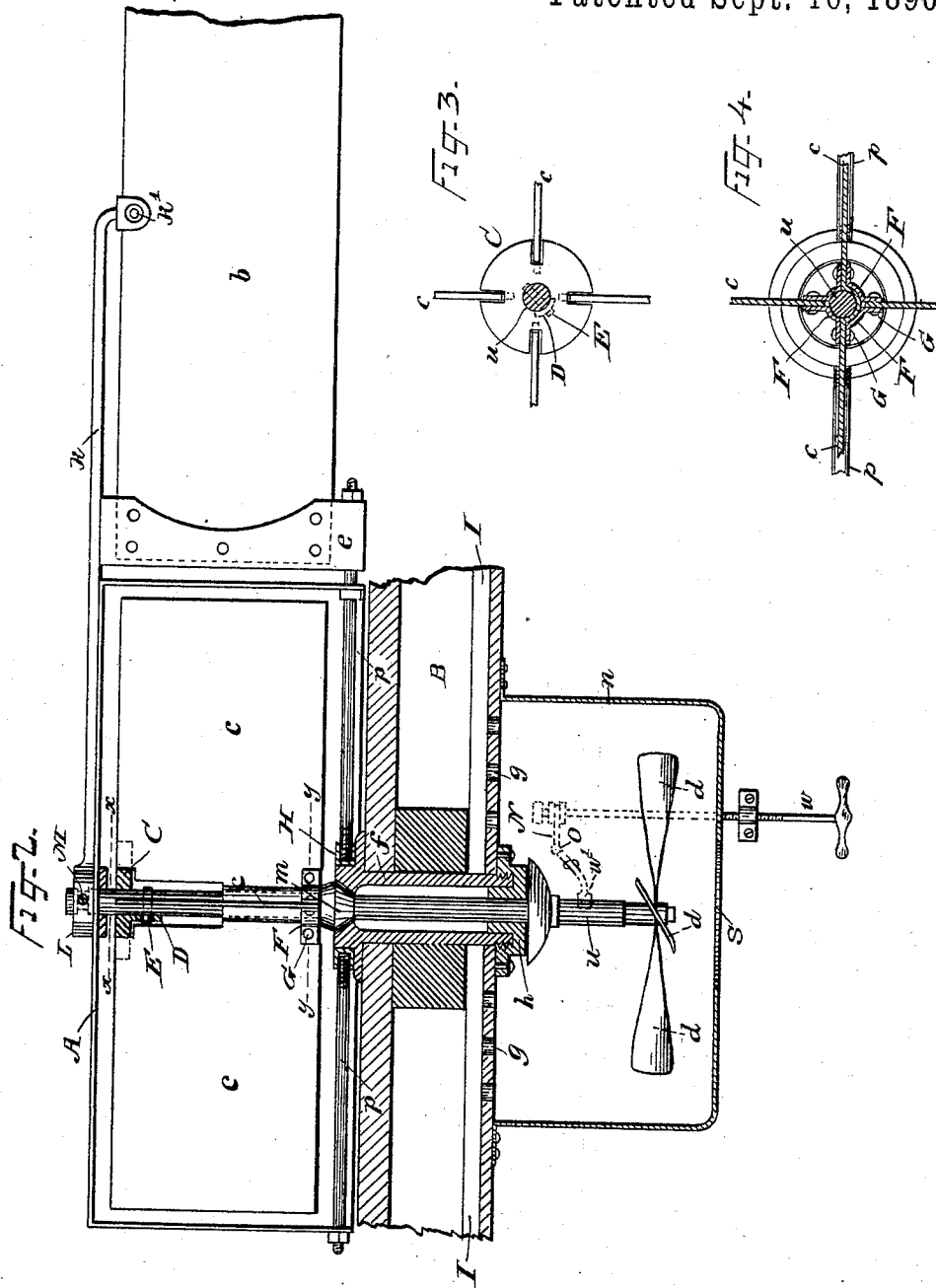
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*Eduard Wolff*  
*William Miller*

INVENTOR

*Wiley J. Fellheimer*

BY *Van Bentvoord & Hauck*

ATTORNEY.

# UNITED STATES PATENT OFFICE.

WILLEY J. FELLHEIMER, OF NEW YORK, N. Y.

## VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 436,701, dated September 16, 1890.

Application filed January 30, 1890. Serial No. 338,554. (No model.)

*To all whom it may concern:*

Be it known that I, WILLEY J. FELLHEIMER, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Ventilators, of which the following is a specification.

This invention relates to an improvement in ventilators of the kind adapted to ventilate the interior of cars, cabins, and similar spaces; and the invention consists in the details of construction set forth in the following specification and claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the ventilator. Fig. 2 is a sectional side elevation of the ventilator. Fig. 3 is a section along *x x*, Fig. 2. Fig. 4 is a section along *y y*, Fig. 2.

In the drawings, the letter B indicates a roof of a car to which is screwed or fixed a bushing *h*. To the bushing *h* is screwed a thimble *f*. Said thimble has a conical journal bearing or seat in its upper end, in which is arranged the conical journal *m*, fixed to the fan-shaft *u*, to which shaft are fixed the fan-blades or screw-blades *d*.

The driving-blades *c* are secured to the fan-shaft *u*, a slotted collar C preventing the blades from turning independently of the shaft. The blades *c* enter the slots in the collar C, and said collar has a tongue D, through which a screw E is passed into the shaft *u*, fixing the collar to the shaft. The lower parts of the blades *c* are secured to one another by the tongues F and screws or rivets G.

The blades *c* rotate in a cap or hood A, said hood being semi-cylindrical or open on one side, so as always to leave one blade *c* exposed to the wind, so as to secure rotation of the blades *c* and shaft *u*. The hood A is supported by arms *p*, extending from a collar H, rotating about the thimble *f*. A vane *b* keeps the front of hood A turned to the wind. Said vane is held in place by a plate or plates *e* and by an arm K, secured to the vane by a screw K'.

The arm K has an eye or head L, passing over the shaft *u*, and a lug or screw M, passing through the head L, enters a groove in the shaft *u*, so as to prevent the arm K and hood A slipping off the shaft, but leaving the shaft

free to rotate independently of the hood. The rotation of the shaft *u* rotates the screw-blades *d*, so as to draw air through the opening S into the housing *n*, surrounding the blades *d*, said air being forced out of the housing *n* through the openings *g* into a channel I in the car-roof B. Said channel I leads to the open air in any suitable way—as, for example, by means of openings (not shown) at the side of the car or cabin, which openings can be covered or protected by netting or gauze to prevent entry of dust, while allowing outflow of the air.

The screw *w* actuates a lever N, swinging about a fulcrum O, so as to press an elastic or rubber head or block *w'* more or less firmly against shaft *u*, thus securing a brake for the shaft to regulate the speed of rotation.

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

1. The combination of a stationary thimble having a journal-bearing at its upper end portion and a bushing fixed to its lower end portion, a rotary shaft extending through the bushing and thimble and having a journal arranged on the said journal-bearing, a fan mounted on the shaft below the bushing, a housing inclosing the fan and having an air-draft orifice, a series of driving-blades fixed to the shaft above the thimble, a collar journaled to rotate upon the upper end of the thimble, a rotary hood open at one side, loosely mounted on the fan-shaft, and having arms rigidly connected with said rotating collar, and a vane rigidly connected with the hood, whereby the driving-blades projecting through the open side of the hood are presented to the wind, substantially as described.

2. The combination of a stationary thimble having a conical journal-bearing in its upper end and a fixed bushing secured to its lower end, a rotary shaft extending through the bushing and thimble and having a conical journal setting in the journal-bearing, a fan mounted on the shaft below the bushing and thimble, a series of driving-blades fixed on the shaft above the thimble, a housing inclosing the fan and having an air-draft opening, a collar journaled to rotate upon the upper end of the thimble, a rotary hood open at one side, loosely mounted on the fan-shaft, and

rigidly connected with the rotating collar, and a vane connected with the hood, whereby the driving-blades projecting through the open side of the hood are presented to the wind, substantially as described.

3. The combination of a roof having a horizontal air-escape channel and air-inlet orifices opening thereinto, a stationary thimble extending through the roof and having at its upper end a journal-bearing and at its lower end a fixed bushing, a shaft extending through the bushing and thimble and provided with a journal setting in the journal-bearing, a fan mounted on the shaft below the bushing and thimble, a housing secured to the roof inclos-

ing the fan and having an air-draft orifice, a series of driving-blades secured to the shaft above the thimble, a collar journaled to rotate upon the upper end of the thimble, a rotary hood having an open side loosely journaled on the shaft and rigidly connected with the rotating collar, and a vane secured to the hood, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLEY J. FELLHEIMER.

Witnesses:

W. C. HAUFF,

E. F. KASTENHUBER.