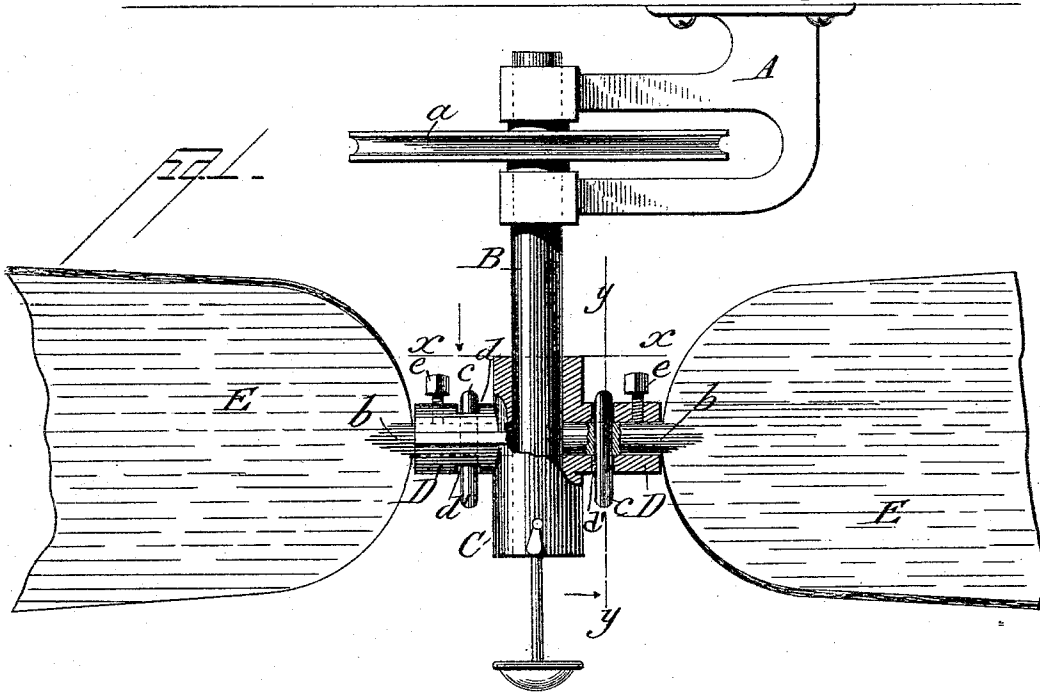
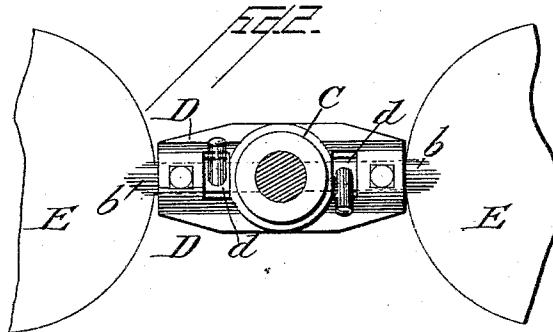
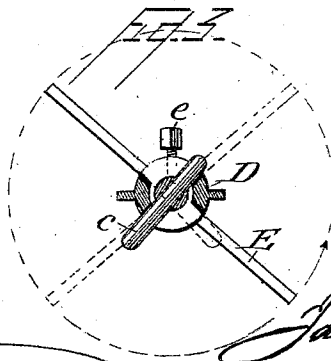


(No Model.)

J. M. SEYMOUR, Jr.
FAN HUB.

No. 425,585.

Patented Apr. 15, 1890.



Witnesses

H. H. Schott
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UNITED STATES PATENT OFFICE.

JAMES M. SEYMOUR, JR., OF NEWARK, NEW JERSEY.

FAN-HUB.

SPECIFICATION forming part of Letters Patent No. 425,585, dated April 15, 1890.

Application filed December 18, 1888. Serial No. 293,951. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. SEYMOUR, JR., a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Fan-Hubs; and I do hereby 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 appertains to make and use the same.

This invention relates to an improvement in rotary fans—such as are used in offices, restaurants, counting-rooms, and other places for the purpose of agitating the air; and it consists in certain details in the structure and arrangement of the fan-hub in combination with the vanes, substantially as will be hereinafter described and claimed, the object of the invention being to simplify and perfect the construction of a fan whose vanes are each capable of rotation on its own axis, so that the inclination or obliquity of said vanes may be easily, readily, accurately, and uniformly adjusted by any person, even though he be entirely unskilled in the use of the fan.

In the accompanying drawings, illustrating my invention, Figure 1 is a side view of a suspended fan whose hub is constructed in accordance with my present invention, a portion of said hub being shown in section. Fig. 2 is a horizontal sectional plan on the line *xx* of Fig. 1. Fig. 3 is a cross-sectional elevation on line *yy* of Fig. 1.

Like letters of reference denote like parts in all the figures.

A denotes a hanger fastened to the ceiling for supporting the fan. B represents the upright driving-shaft for the fan, having thereon a driving-pulley *a*. These parts are of any usual and ordinary construction, and are shown here merely to complete the illustration of my invention.

The fan-hub C consists, simply, of a hollow hub around the driving-shaft, having lateral sockets D D, projecting horizontally in opposite directions, as shown, which receive the round or pin-shaped ends *b b* of the vanes or blades E E. These sockets are properly bored out to receive the round ends *b b*, so that they will fit nicely therein, and thus each vane will be capable of rotation on its own axis to adjust its obliquity to the plane of its motion.

In order to securely retain the vanes within the hub, I provide pins *c*, which pass through slots in the lateral sockets D D, and also through apertures in the rounded ends *b* of the vanes. In this manner the vanes will be firmly held against any endwise displacement and cannot be thrown from the fan by the strong centrifugal force resulting from its rapid rotation. The slots cut in the lateral sockets for the passage of pins *c* are designated by *d* and *d'*. The former are clearly shown in Fig. 2. These slots may have a greater or less length, as desired, and they run at right angles to the axes of the vanes. The slots *d* are upon the top of the lateral sockets D, while the slots *d'* are correspondingly located on the under side of the sockets directly opposite slots *d*. The pins *c* project slightly above the sockets through slots *d*, and likewise slightly below said sockets through slots *d'*. It will be evident, of course, that when desired either the upper or lower of these slots may be dispensed with. Although preferable to have both, yet it is not absolutely essential, for doubtless a pin passing through one slot and entering the vane will securely hold it. The slots may be located at any point in the length of the lateral socket, either near the extremity thereof or near the hub proper. Upon the length of the slots *d* or *d'* depends, obviously, the extent of rotation that may be given to the vanes to adjust their obliquity. By grasping a vane in the hand it may be rotated in one direction or the other until each rotation is obstructed by the striking of pin *c* against the end of the slot. I generally make the slots, therefore, of such length that the vanes may be permitted to occupy either of two principal positions, the one being a position of a certain number of degrees of obliquity, as shown in full lines in Fig. 3, and the other being a position of the same number of degrees of reverse obliquity; as shown in dotted lines in Fig. 3, and when the vane is being moved into either position the pin *c* furnishes a positive stop to limit its movement. Thus any person, however unskilled he may be, may quickly, easily, and accurately adjust the vanes, so that they will be properly aligned with respect to each other and having the proper obliquity relatively to their plane of movement, and this will be done without the

trouble of making measurements of any kind. Of course, if desired, the blades or vanes may be adjusted to inclinations intermediate between their extreme obliquities. When they
5 have been adjusted in any desired position, they can be firmly held and prevented from further movement on their own axes by means of the set-screws *e*.

Having thus described my invention, what
10 I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a fan-hub having lateral sockets for the ends of the vanes, of the vanes entering said sockets and capable
15 of partial rotation on their own axes, securing-pins passing through slots in the sockets and

apertures in the ends of the vanes, and devices, substantially as described, for holding the vanes when their obliquity has been adjusted, substantially as described. 20

2. The combination, with a fan-hub having a slotted lateral socket, of a vane or blade whose inner end enters said socket and is provided with a projection entering a slot in the socket, substantially as and for the pur- 25 pose described.

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

JAMES M. SEYMOUR, JR.

Witnesses:

N. DUMONT,

FRED E. TASKER.