

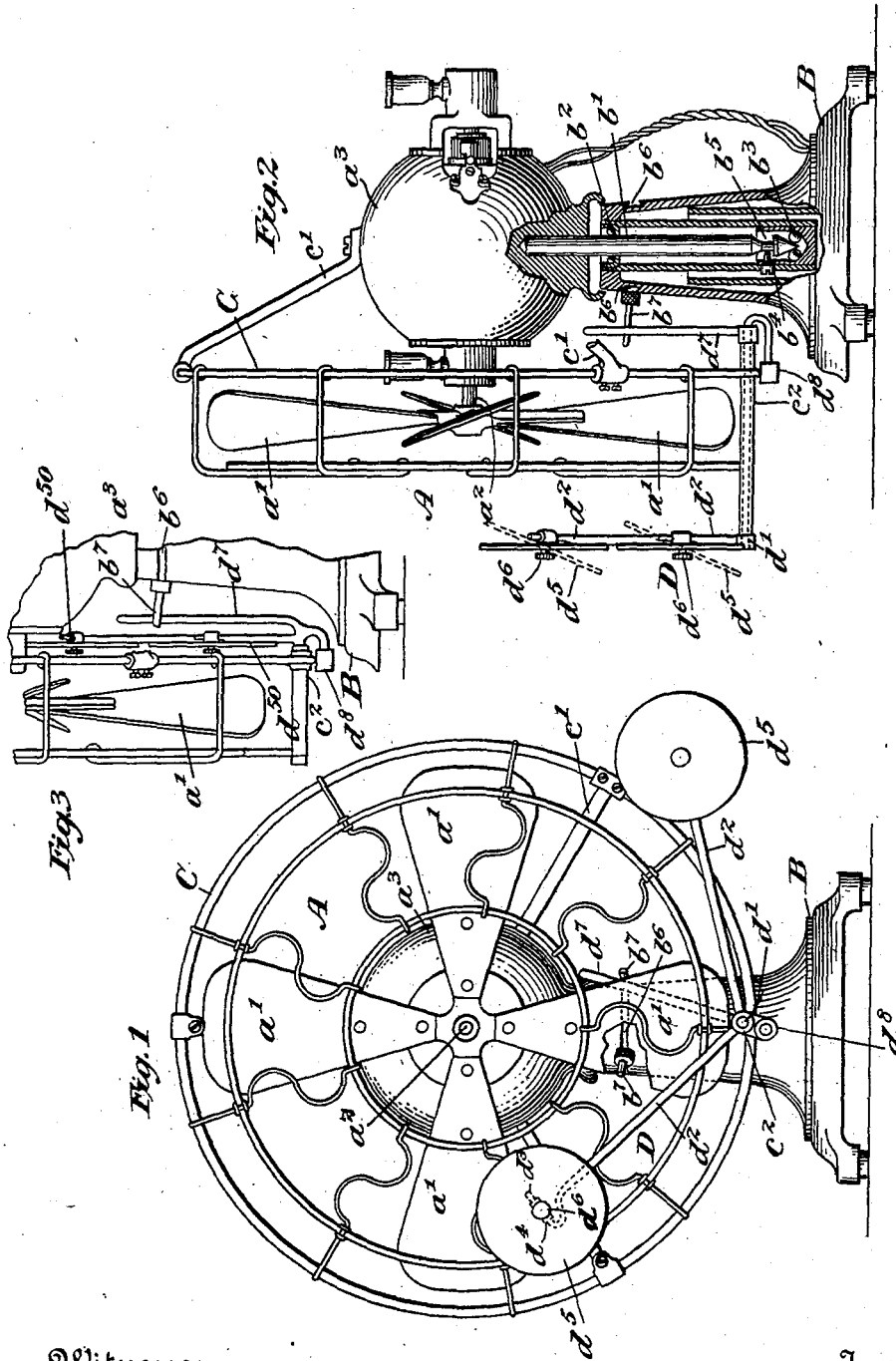
No. 730,890.

PATENTED JUNE 16, 1903.

C. A. ECK.
FAN.

APPLICATION FILED FEB. 21, 1903.

NO MODEL.



Witnesses
Chas. R. King
Frederic D. Plamford

Inventor
Chas. A. Eck
By his Attorney
Wm. V. Beesley

UNITED STATES PATENT OFFICE.

CHARLES A. ECK, OF BELLEVILLE, NEW JERSEY.

FAN.

SPECIFICATION forming part of Letters Patent No. 730,890, dated June 16, 1903.

Original application filed October 15, 1902, Serial No. 127,381. Divided and this application filed February 21, 1903. Serial No. 144,391. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. ECK, a subject of the King of Sweden and Norway, and a resident of Belleville, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Fans, of which the following is a specification.

My invention relates generally to fans, and has more particularly reference to means whereby a fan will be caused to oscillate or turn from one side to the other as it rotates, and is a companion application to the one filed on the 15th day of October, 1902, Serial No. 127,381.

The object of my invention is to produce a structure which is simple, inexpensive, and efficient and one which will not mar the appearance of the fan.

In carrying out this object my invention consists in two vanes, one on each side of the center of the fan, adapted to be moved alternately into and out of the path of the current of air produced by the fan, the arrangement of the parts being such that when one vane is moved into operative position the other is moved out of operative position, and also in means for regulating the distance and the speed of the oscillation.

I shall describe a fan adapted to oscillate in the manner set forth embodying my invention and afterward point out the novel features in the claims.

In the drawings I have embodied my invention in a suitable form; but changes in construction may of course be made within the scope of the claims.

In the said drawings, Figure 1 is a front view of a fan embodying my invention. Fig. 2 is a side view of Fig. 1. Fig. 3 shows a modification.

A represents a fan comprising the vanes a' , mounted on the armature-shaft a^2 of the motor a^3 . The motor a^3 is of any suitable construction and is mounted loosely, so that it can turn from one side to the other on the upright stem b' of the base B, which rests in the ball-bearings b^2 and b^3 . The motor is prevented from becoming detached from the base by the screw b^4 , which projects into the circumferential groove b^5 of the stem b' . The base B further carries a circumferential

groove b^6 , in which are mounted the stops b^7 , which are conveniently in the form of set-screws adapted to be adjusted in the said groove b^6 to regulate the distance of the oscillation.

The fan is, as is usual, inclosed in a wire guard C, which is attached to the motor by means of the arms c' . At the lower side of this wire guard and in substantially the same vertical plane as the center of the fan is a horizontal sleeve c^2 , into which is inserted the arm d' of the oscillating device D. From the arm d' extend two arms d^2 , provided each with a hook, as d^3 , inserted into a bushing of a vane d^5 on each side of the center of the fan and held there by means of a screw d^6 . From the other end of the arm d' extends the projection d^7 to engage alternately with the stops b^7 of the base B. To limit the tilting motion of the arm d' , a buffer d^8 , acting against the wire guard, is carried by the said arm. If one of the vanes d^5 now be in the path of the current of air produced by the fan, as shown in Fig. 1, the other vane will be out of the path of the current of air of the said fan. The force of the air coming from the fan as it rotates will turn the said fan until the projection d^7 engages with one of the stops b^7 , which has the effect of stopping the turning motion and of causing the other one of the two vanes d^5 to move into operative position, while the first-mentioned vane d^5 will move out of operative position, when the said fan is turned back again until it is reversed by the engagement of the projection d^7 with the other stop b^7 , when the operation is repeated. To vary the speed of the oscillation, the vanes d^5 are inclined more or less or not at all, as shown in Fig. 2, the set-screw d^6 permitting such adjustment.

The vanes d^5 will preferably be placed in front of the fan, so as to receive the blast coming from the same. They may, however, as shown in Fig. 3, where the vanes are marked d^{50} , be placed in the rear of the fan, as the current of air produced by the said fan would turn it whether the vanes are placed in front or in rear of the fan.

Obviously several vanes may be used on each arm, or the vanes may be composed of several blades or disks. The shape of the

vanes is shown in the form of a disk; but they may of course be of any shape suitable for the purpose.

Having thus described my invention, what I claim is—

1. The combination with a fan, of means for causing it to oscillate as it rotates, comprising two vanes, one on each side of the center of the fan, and means for alternately moving each vane into and out of the path of the current of air produced by the fan, the arrangement of the parts being such that when one vane is moved into operative position, the other is moved out of operative position.

2. The combination with a fan, of means for causing it to oscillate as it rotates, comprising two vanes, one on each side of the center of the fan, means for alternately moving each vane into and out of the path of the current of air produced by the fan, the arrangement of the parts being such that when one vane is moved into operative position, the other is moved out of operative position, and means for adjusting the said vanes thereby regulating the speed of the oscillation.

3. The combination with a fan, of means for causing it to oscillate as it rotates, comprising two vanes, one on each side of the center of the fan, adjustable stops for alternately moving each vane into and out of the path of the current of air produced by the fan, and for regulating the distance of the oscillation, the arrangement of the parts being such that when one vane is moved into operative position, the other is moved out of operative position.

4. The combination with a fan, of means for causing it to oscillate as it rotates, comprising two vanes, one on each side of the center of the fan, and means for alternately moving each vane into and out of the path of the blast produced by the fan, the arrangement of the parts being such that when one vane is moved into operative position, the other is moved out of operative position.

5. The combination with a fan, of means for causing it to oscillate as it rotates, comprising two vanes, one on each side of the center of the fan, means for alternately moving each vane into and out of the path of the

blast produced by the fan, the arrangement of the parts being such that when one vane is moved into operative position, the other is moved out of operative position, and means for adjusting the said vanes thereby regulating the speed of the oscillation.

6. The combination with a fan, of means for causing it to oscillate as it rotates, comprising two vanes, one on each side of the center of the fan, adjustable stops for alternately moving each vane into and out of the path of the blast produced by the fan, and for regulating the distance of the oscillation, the arrangement of the parts being such that when one vane is moved into operative position, the other is moved out of operative position.

7. The combination with a fan, of means, for causing it to oscillate as it rotates, comprising two vanes, one on each side of the center of the fan, a horizontal sleeve in substantially the same vertical plane as the center of the fan mounting said vanes loosely, stops on either side of the center of the fan, and a projection connected to the vanes for engaging with the said stops to alternately move each vane into and out of the path of the current of air produced by the fan, the arrangement of the parts being such that when one vane is moved into operative position, the other is moved out of operative position.

8. The combination with a fan, of means, for causing it to oscillate as it rotates, comprising two vanes, one on each side of the center of the fan, a horizontal sleeve in substantially the same vertical plane as the center of the fan mounting said vanes loosely, stops on either side of the center of the fan, and a projection connected to the vanes for engaging with the said stops to alternately move each vane into and out of the path of the blast produced by the fan, the arrangement of the parts being such that when one vane is moved into operative position, the other is moved out of operative position.

Signed at Belleville, New Jersey, this 11th day of February, 1903.

CHARLES A. ECK.

Witnesses:

JOHN J. CONNELL,
AXEL V. BEEKEN.