

(No Model.)

C. W. McKEEHAN & F. B. MILES.
DIFFUSER FOR ELECTRIC FANS.

No. 538,460.

Patented Apr. 30, 1895.

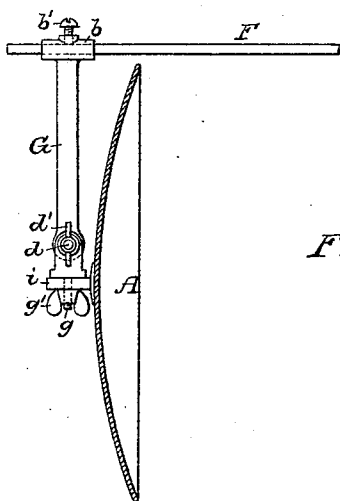


FIG. 1.

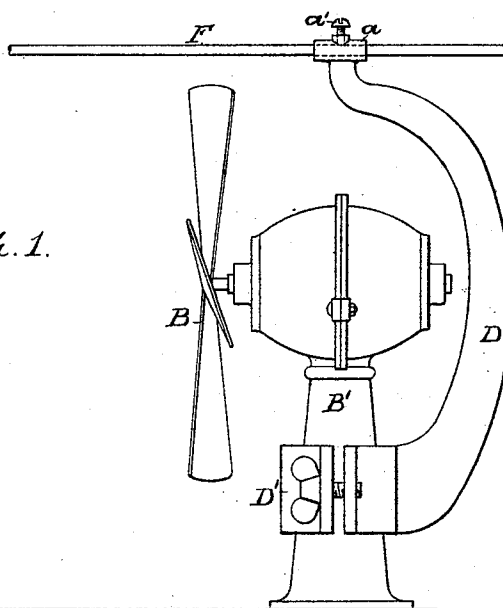


FIG. 2.

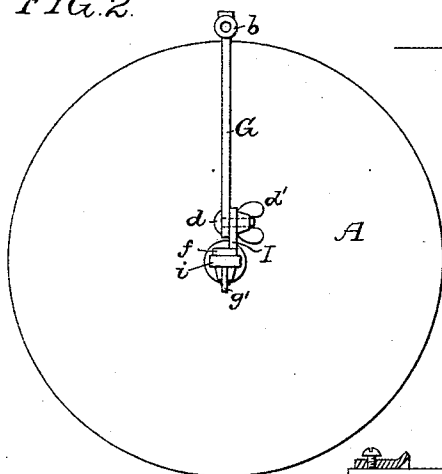


FIG. 3.

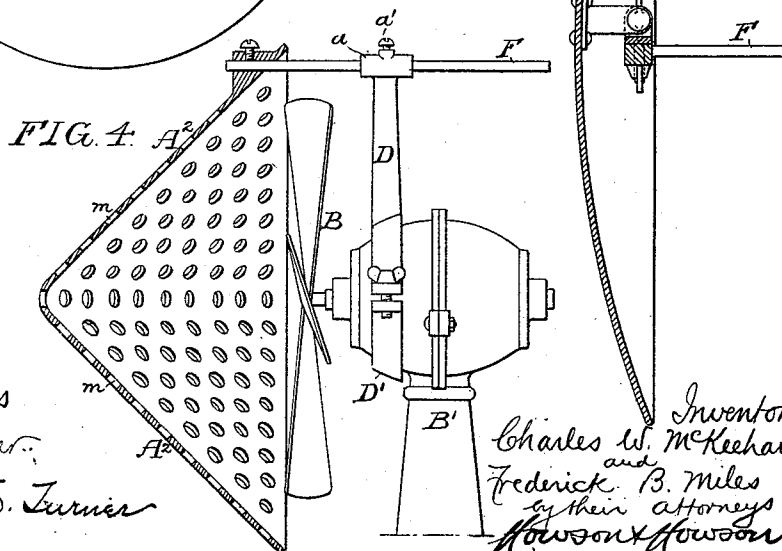


FIG. 4.

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UNITED STATES PATENT OFFICE.

CHARLES W. MCKEEHAN AND FREDERICK B. MILES, OF PHILADELPHIA,
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DIFFUSER FOR ELECTRIC FANS.

SPECIFICATION forming part of Letters Patent No. 538,460, dated April 30, 1895.

Application filed January 17, 1895. Serial No. 535,267. (No model.)

To all whom it may concern:

Be it known that we, CHARLES W. MCKEEHAN and FREDERICK B. MILES, citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in Diffusers for Electric Fans, of which the following is a specification.

The object of our invention is to provide for use with an electric fan, a device whereby the blast of air from the fan can be broken up or diffused, and thus rendered more agreeable than the strong current of air usually delivered by the fan. This object we attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a view of an electric fan provided with a deflector as an attachment of the fan. Fig. 2 is a rear view of the deflector with its supporting devices. Fig. 3 is a sectional view illustrating another form of supporting device for the deflector, and Fig. 4 is a sectional view illustrating another form of the deflector itself.

The usual rapidly revolving electric fan projects an extremely strong jet or current or air forwardly but with very little spread of diffusion beyond the circumferential limits of the fan itself, and it is therefore objectionable, first, because the blast of air is usually too strong for comfort, and, secondly, because there is not that agitation of the surrounding air which is necessary in order to effect the equable cooling of the air in the room. With the view of overcoming this objection we provide for use with the fan, a device of such character that the blast delivered by the fan will be broken up and widely diffused.

The preferable form of the device is a deflector interposed directly in the current delivered by the fan and serving to break up this current and throw it backward diffused through a large area and decreased in force proportionately to such diffusion.

In Fig. 1 we have illustrated such a deflector in the form of a concavo-convex plate A which may be of any desired material and which is located immediately in front of the fan B, the fan support or casing having mounted upon it a bracket D which has at the upper end a

tubular bearing *a* for a rod F, said rod being adjustable longitudinally in the bearing and being secured thereto after adjustment by means of a set screw *a'* so that the deflector A can be moved from and toward the fan B as desired. The preferable method of supporting the bracket D is by means of a clamp D' adapted to the supporting post B' of the fan casing, so that it can be readily applied to or detached therefrom, but it is manifest that the bracket may be otherwise secured. At its outer end the rod F is adapted to a tubular bearing *b* at the upper end of a post G which is adjustable upon the rod and can be secured after adjustment by means of a set screw *b'*. To the lower end of the post G is pivoted by means of a bolt *d* and thumb nut *d'*, an arm I, having a foot *f*, with downwardly projecting bolt *g* provided with a thumb nut *g'* whereby a lug *i* projecting from the back of the deflector A may be secured to said foot *f*. By this means the universal adjustment of the deflector A is permitted in order that the current of air thrown backward by the deflector may be caused to take any desired course.

In Fig. 3 we have shown a construction in which a deflector A' of larger diameter than that shown in Fig. 1 is employed, this deflector being mounted by a universal joint connection directly upon the outer end of the rod F, and in Fig. 4 we have shown a deflector in which the breaking up or spreading of the air current is not due to reflecting or throwing the same back upon itself, but to the interposition in the current of a screen A² having a number of openings *m* of limited area for the escape of the air, the screen being, by preference, in the form of a funnel or cone so as to direct the air outward as well as forward. When a conical or V-shaped deflector is used, however, either the apex or the open end of the cone or V may be presented to the fan.

Having thus described our invention, we claim and desire to secure by Letters Patent—

1. The combination of an electric fan with a bracket secured to the casing of said fan and having a rod projecting forwardly in ad-

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vance of the fan, and a deflector mounted upon the outer end of said rod so as to be interposed in the current of air projected by the fan.

5 2. The combination of an electric fan, with a bracket having a clamp whereby it is detachably mounted upon the motor casing in the rear of the fan, a rod projecting forwardly from said bracket, and a deflector mounted
10 upon the outer end of said rod and interposed in the current of air projected forwardly by the fan.

3. The combination of an electric fan having a fixed motor casing, a deflector interposed in the current of air projected by the
15 fan, a bracket fixedly mounted upon the fan casing, a rod projecting from said bracket, and means for adjusting the deflector in respect to said rod, whereby its angular relation to the current projected by the fan may
20 be changed.

4. The within described device for use with

an electric fan, said device consisting of a deflector interposed in the current of air projected by the fan, and a deflector support
25 having as elements vertical and horizontal pivotal connections.

5. The within described device for use with an electric fan, said device consisting of a deflector interposed in the current of air projected by the fan, a rod projecting outwardly
30 from the fan casing, a post depending from said rod, and vertical and horizontal pivotal connections whereby the deflector is mounted upon said post.

35 In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CHARLES W. MCKEEHAN.
FREDERICK B. MILES.

Witnesses:

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JOSEPH H. KLEIN.