No. 683,447. Patented Oct. 1, 1901.

M. D. DEGGE.

AIR DIFFUSER FOR FANS.

(Application filed Oct. 4, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig.1.

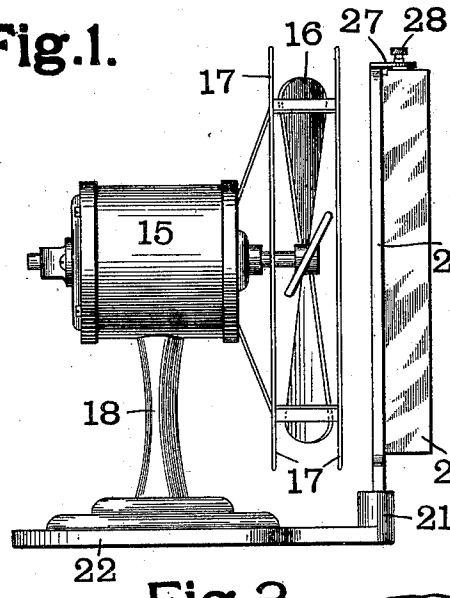


Fig.2.

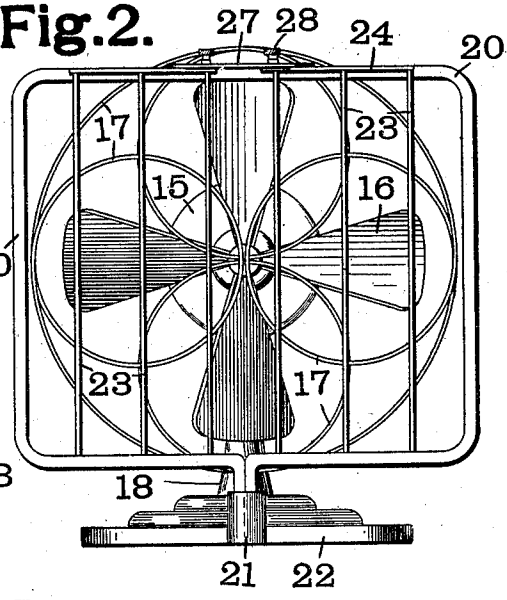


Fig.3.

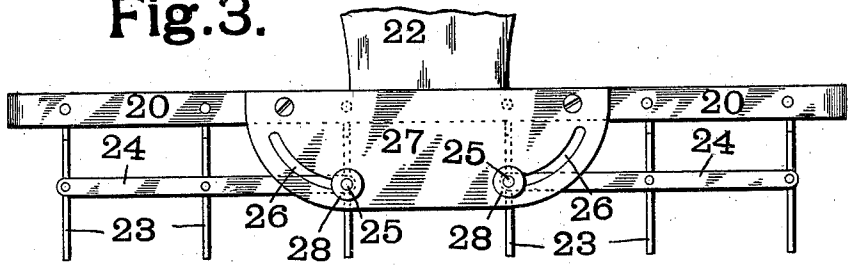


Fig.4.

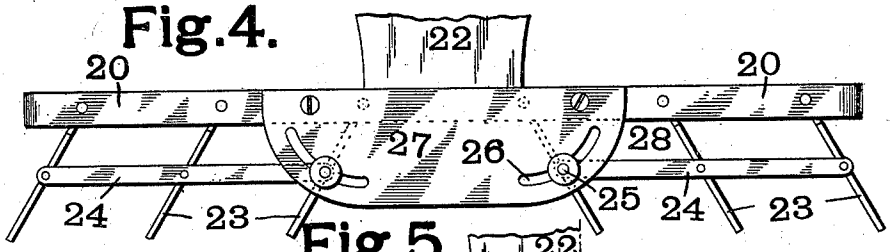


Fig.5.

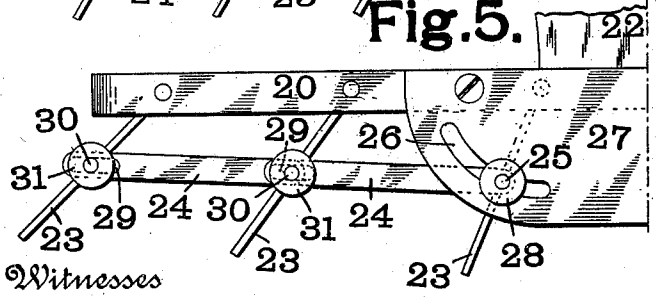
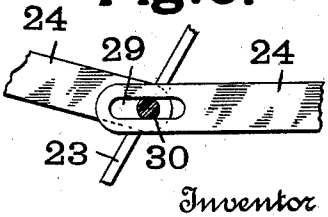


Fig.6.



Witnesses

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No. 683,447. Patented Oct. 1, 1901.

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(No Model.) 2 Sheets—Sheet 2.

Fig.7.

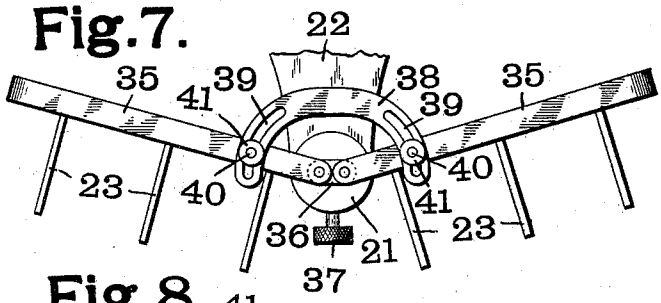
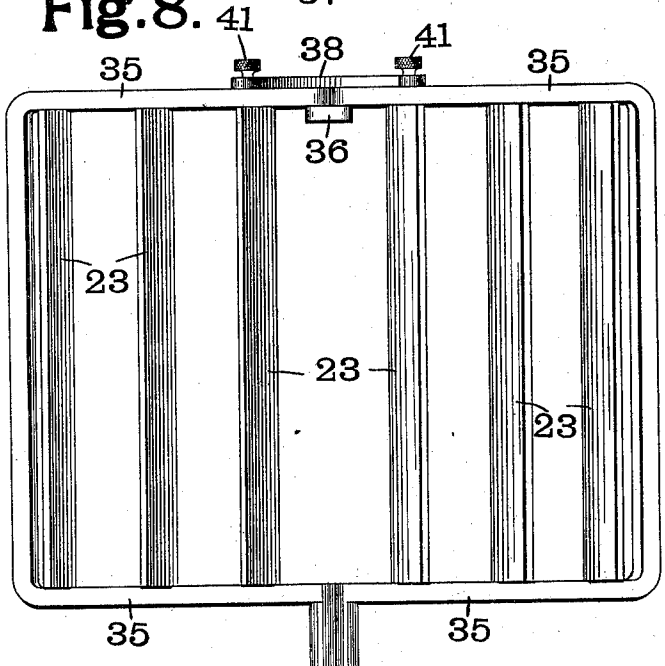


Fig.8.



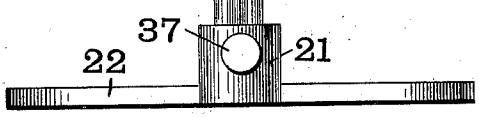


Fig.10.

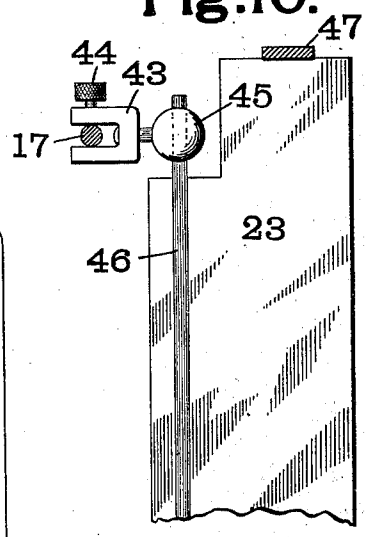


Fig.11.

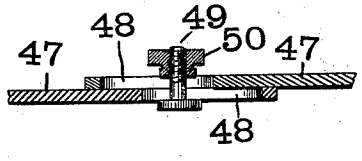
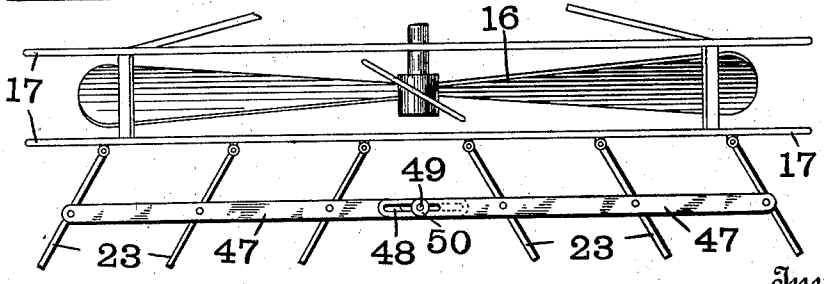


Fig.9.



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UNITED STATES PATENT OFFICE.

MIDDLETON D. DEGGE, OF ST. LOUIS, MISSOURI.

AIR-DIFFUSER FOR FANS.

SPECIFICATION forming part of Letters Patent No. 683,447, dated October 1, 1901.

Application filed October 4, 1900. Serial No. 31,982. (No model.)

To all whom it may concern:

Be it known that I, MIDDLETON D. DEGGE, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented a certain new and useful Air-Diffuser for Fans, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The object of my invention is to provide means for deflecting the currents of air produced by an ordinary rotary fan, so that the same may be distributed evenly throughout a room.

My invention consists, in part, in the combination, with a rotary fan, of a plurality of deflecting devices, each consisting of one or more blades, and means for independently adjusting said deflecting devices to diffuse the currents of air from said fan.

My invention also consists in various other novel features and details of construction, all of which are described in the following specification and pointed out in the claims affixed hereto.

In the accompanying drawings, which illustrate apparatus made in accordance with my invention, Figure 1 is a side view, Fig. 2 is a front view, and Fig. 3 is a top plan view, of the deflector. Fig. 4 is a view similar to Fig. 3, but showing the parts in a different position. Fig. 5 is an enlarged top plan view of half of the deflector, showing a slight modification in the construction. Fig. 6 is an enlarged detailed view. Fig. 7 is a top plan view of a modified form of deflector. Fig. 8 is a front view of the deflector shown in Fig. 7. Fig. 9 is a top plan view of a modification, and Figs. 10 and 11 are enlarged detailed views of the modification shown in Fig. 9.

Like marks of reference refer to similar parts in the several views of the drawings.

15 is the motor of an ordinary electric fan, and 16 is the fan proper, which is driven by said motor. The fan 16 is surrounded by a guard 17 in the usual manner, and the motor 15 is mounted on a pedestal or stand 18.

20 is the frame of the deflector, which is rigidly secured in the end 21 of a base 22, upon which the pedestal of the motor 15 rests. Pivoted in the frame 20 are a number of deflecting-blades 23, which are arranged in two groups at opposite sides of the center of the fan. The tops of each of these groups are connected by an adjusting-bar 24, one end of which is provided with a pin 25, passing through a slot 26 in a plate 27, secured to the top of the frame 20. Each of the pins 25 is provided with a milled nut 28, by means of which the adjusting-bar 24 is secured in any desired position. By loosening the milled nuts 28 the pin 25 can be slid in the slot 26, thus moving the adjusting-bar 24 longitudinally and varying the angle of the deflecting-blades 23, as is best shown in Fig. 4.

In the modification shown in Fig. 5 instead of using a single adjusting-bar 24, connecting all the blades of a set, I use two or more of said bars 24, provided with slots 29 in one of their ends, and provide the blades 23 with pins 30, passing through said slots, and milled nuts 31, engaging said pins 30. By this means I am enabled to set the various deflecting-blades 23 of each set at different angles, as shown in Fig. 5, which enables the air to be more evenly distributed throughout a room.

In the modification shown in Figs. 7 and 8 I form the frame of the deflector in two parts 35, which are hinged together at the top by a link 36 and at the bottom are pivotally carried by the front end 21 of the base 20. A set-screw 37 is provided for securing the lower parts of the frames in the desired position. The upper parts of the frame are provided with a curved strip 38, in which are formed slots 39, through which project pins 40, provided with milled nuts 41. The deflecting-blades 23 are rigidly secured in the parts 35 of the deflecting-frame. It will be readily seen that by loosening the milled nuts 41 and the set-screw 37 the parts 35 of the frame can be adjusted at an angle, thus consequently adjusting the deflecting-blades 23 at a corresponding angle.

In the modification shown in Figs. 9 to 11 the deflecting-blades 23 instead of being arranged in a frame are connected directly to the guard 17 of the fan 16. The blades may be attached in any suitable manner; but I prefer to use clamps 43, Fig. 10, which are secured to the wires of the guard by means

of set-screws 44. Pivotally connected to each of the clamps 43 is a ball 45, through which passes a rod 46, to which the deflecting-blade 23 is secured in any suitable manner, such as soldering or brazing. This allows the blades to be moved, with the rod 46 as an axis. In order to adjust the blades to the desired angle, I provide each set of blades with an adjusting-bar 47, provided in its end with a slot 48, through which passes a stud 49, engaging with a milled nut 50.

In the operation of my device when the fan 16 is started in motion the currents of air generated by the blades of said fan strike against the deflecting-blades 23, and are thus deflected laterally at both sides of the fan, the amount of deflection depending upon the angle at which the blades are placed. In case it is desired to leave the air unaffected by the deflector the blades can be placed straight in the frame, as shown in Figs. 2 and 3. The deflector will then have practically no effect upon the currents of air. In the form shown in Figs. 1 to 4 the blades are adjusted by means of the milled nuts 28, while in that shown in Figs. 7 and 8 the parts of the frame itself are adjusted at an angle, as has been previously described.

While I have shown the deflecting-blades as straight flat blades, I do not wish to limit myself to such form of blades, as the form of the blades, as well as the general design of the device, may be greatly varied without departing from the spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with a rotary fan, of a plurality of deflecting devices, each consisting of one or more blades, and means for independently adjusting said deflecting devices to diffuse the currents of air from said fan.

2. The combination with a rotary fan, of a plurality of deflecting devices, each consisting of one or more blades vertically arranged in front of said fan, and means for independently adjusting said deflecting devices to diffuse the currents of air from said fan.

3. The combination with a rotary fan, of a frame arranged in front of said fan, a plurality of deflecting devices carried by said frame, each consisting of one or more blades, and means for independently adjusting said deflecting devices for diffusing the currents of air from said fan.

4. The combination with a rotary fan, of a frame arranged in front of said fan, a plurality of deflecting devices carried by said frame, each consisting of one or more blades vertically arranged, and means for independently adjusting said deflecting devices to diffuse the currents of air from said fan.

5. In a deflector for rotary fans, the combination with a frame, of a plurality of deflecting-blades pivotally mounted in said frame, and means for independently adjusting said blades at various angles.

6. In a deflector for rotary fans, the combination with a plurality of deflecting-blades pivotally mounted in two sets, means for adjusting said sets of blades in opposite directions, and means for independently varying the individual blades of said sets.

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

MIDDLETON D. DEGGE. [L. S.]

Witnesses:

JAMES H. BRYSON,

W. A. ALEXANDER.