No. 712,177. Patented Oct. 28, 1902.

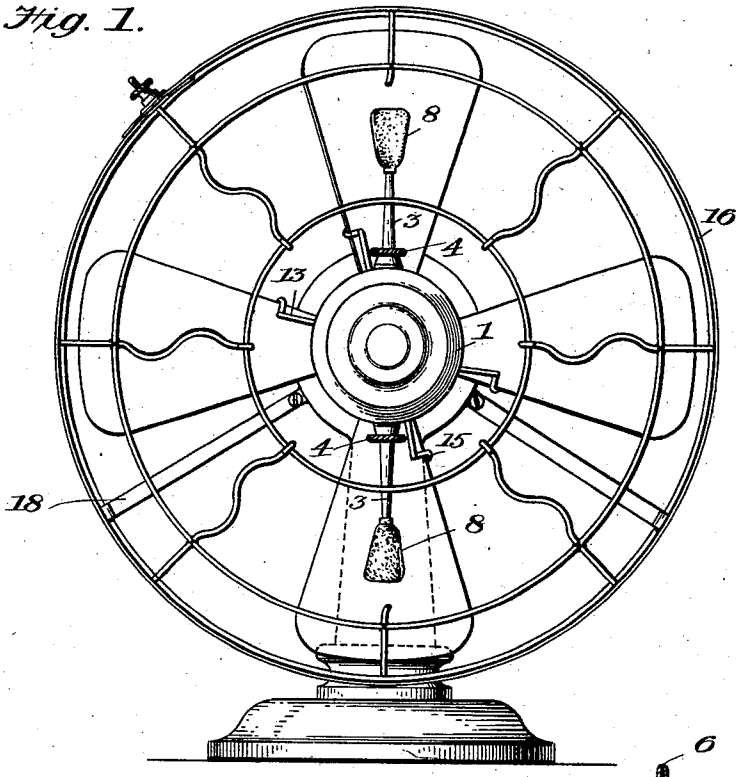
C. T. BRADSHAW.

APPARATUS FOR DISTRIBUTING ODORS.

(Application filed Mar. 18, 1901.)

(No Model.)

Fig. 1.



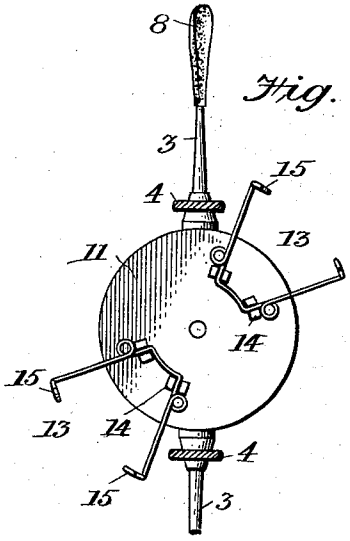


Fig. 3.

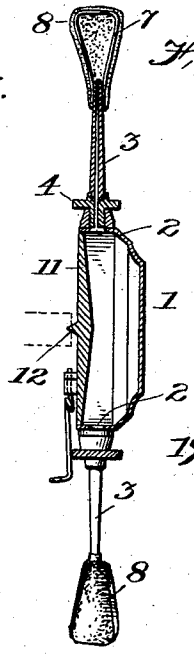


Fig. 2.

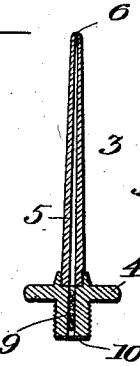
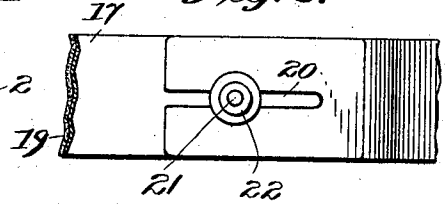


Fig. 4.

Fig. 5.



Witnesses.
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by Horace Pettit
his Attorney.

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UNITED STATES PATENT OFFICE.

CHARLES T. BRADSHAW, OF PHILADELPHIA, PENNSYLVANIA.

APPARATUS FOR DISTRIBUTING ODORS.

SPECIFICATION forming part of Letters Patent No. 712,177, dated October 28, 1902.

Application filed March 18, 1901. Serial No. 51,647. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. BRADSHAW, a citizen of the United States, and a resident of the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Devices for Distributing Odors, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to certain improvements in devices for distributing odors, and is designed as an improvement over my allowed application filed August 28, 1900, Serial No. 28,327.

The principal object of my present invention is to generally improve the construction and operation of rotary odorizing devices and to provide means for preventing the odorous agent from dripping and being thrown against the furniture of the room or other support which carries the device.

My invention is designed to be secured to a rotary fan or ventilator having revolving blades; and the invention consists in providing specific means for securing the device to the fan-blades and centering the same on the fan-shaft.

My invention further consists in providing means for preventing the odorous liquid from dropping from the atomizing-tube and in distributing the said odors throughout the room.

My invention further consists in providing a guard adapted to surround the fan-blades having a felt or other absorbent material secured on its interior which will catch any sprays or drops of the odorous liquid which might come from the atomizer.

In the accompanying drawings, in which similar numerals of reference are used to indicate similar parts, Figure 1 is a face view of a rotary fan having my improvements applied thereto. Fig. 2 is a sectional elevation through the odorizing device detached from the fan. Fig. 3 is a rear view of the same, illustrating the means for securing it to the fan-blades. Fig. 4 is an enlarged sectional detail through one of the atomizing-tubes. Fig. 5 is a plan view of a section of the outer guard, showing means for adjusting the same.

Referring to the said drawings, 1 designates the reservoir for holding the odorous liquid or other agent, which comprises a circular receptacle having threaded openings 2 provided in its periphery diametrically opposite each other, into which are screwed the atomizing-tubes 3. These tubes 3 are provided with a threaded lower end adapted to the openings 2, and a milled disk, as 4, is provided above the threaded end for the purpose of turning the said tube when it is desired to remove the same for the purpose of filling the reservoir 1. The opening 5 in each tube tapers toward the outer ends of said tube and terminates in a very fine opening 6. A wire frame, as 7, is secured to the end of the tubes 3 and is preferably formed in triangular shape, as illustrated in Fig. 2 of the drawings. A spreading-pad 8 is supported on this frame, and this pad comprises two pieces of felt or other absorbent material, which are sewed or otherwise secured on each side of the frame 7, having their lower ends securely wrapped around the end of the tubes 3, so that any of the odorizing liquid which escapes from the said tubes 3 will be caught by this bag-shaped pad and absorbed thereby. Near the inner end of the opening 5 of the tube 3 I provide a filling 9, composed, preferably, of sponge, and across the end of the said tube I secure a thin disk or diaphragm 10, having a very fine perforation in its center which registers with the central opening of the tube 5, but which is much smaller in diameter than the said opening 5. The object of this is to prevent too much of the odorizing liquid from entering the tube 3.

The rear plate 11 of the reservoir 1 is provided in its center with a projecting conical point 12, which is adapted to enter a countersink, which is provided in the end of the fan-shaft for the purpose of centering the said reservoir on said shaft. I provide two sets of spring-arms 13 for securing my device to the fan-blades, and these arms are secured to the plate 11 in the manner illustrated in Fig. 3 of the drawings, which will now be described. A pair of lugs 14 are secured or formed on the plate 11, and each of these lugs is provided with grooves or channels of a size sufficient to admit the wire which

forms the arms 13. After inserting the wire into the grooves of the lugs 14 I upset the outer face of the lugs by hammering the same, which causes the metal to close or partially close the grooves and firmly hold the wires in position. These wires may also be soldered to more firmly hold them in position. These arms 13 are made of spring-wire, having their free ends bent at an angle to form the hooks 15, which are adapted to engage the edges of the fan-blades. Each set of arms comprises a single wire disposed radially toward the center of the plate 11 and having a coil formed in each arm at the points in front of the lugs 14, so that the tension of the spring in said arms will be exerted against the edges of the fan-blades when the device is in position on the fan. In placing the device in position the conical point 12 is centered against the fan-shaft and the spring-arms 13 are compressed toward each other and pass between the opposing edges of the fan-blades, and when these arms are released the hooks will engage the edges of the fan-blades under tension and hold the device securely in position.

A circular guard 16 is provided around the fan-blades for catching any drops or sprays which escape from the pads 8. This guard comprises an outer band 17, which may be adjustably secured to the wire guard usually carried by rotary fans, or if the fan is not provided with a stationary guard this band 17 may be supported by a frame which can be braced to the fan-motor—such, for instance, as the arms 18. (Shown in Fig. 1 of the drawings.) The interior surface of the band 17 is provided with a lining of felt or other absorbent material, as 19. The purpose of this is to catch any drops or sprays which might be thrown by the atomizers during the revolving of the fan and prevent the same from being thrown around the room and upon the desk or other fan-support. When a detachable band is used, the same must be adjustable, so as to fit the stationary guard of the different makes of fans, and to accomplish this I provide a longitudinally-disposed slot 20 in one end of the band, into which the screw 21, which is carried by the other end of the band, fits. A thumb-nut 22 is threaded on the screw 21 and forms means for securing the two ends of the band together in their adjusted position.

In operation the device is centered on the fan-shaft and held to the fan-blades by the spring-arms 13 in the manner heretofore described, and as the fan is caused to revolve the liquid in the reservoir 1 will be agitated by centrifugal force and will pass through the small opening in the diaphragm 10, carried by the inner ends of the tubes 3, into the central opening 5 of said tube. The sponge 9 prevents the said liquid from feeding too freely through the tube. The liquid then passes through the tubes and out through the small opening 6 in the ends of said tubes and is caught by the pads 8, which become thoroughly saturated with the odorous liquid, and as it evaporates the blast created by the revolving fan-blades will distribute the odors throughout the room. Any drippings which might escape from the pads 8 will be caught by the felt guard 19, and the odors arising from this guard as it becomes saturated will also be distributed throughout the room in the same manner, so that none of the material used is lost.

The preferable form of construction of the tubes 3 is shown in detail in Fig. 4, in which the lower end carrying the threads and the milled disk 4 is shown in one piece and the upper tubular section 3 in another piece. The end of the tube 3 is threaded into the section 4, so that it may be removed without removing the plug from the apertures 2 if the same should become clogged up from constant usage. This construction also enables me to more easily insert the sponge filling in the lower portion of the passage 5 in said tube.

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

1. In a device for distributing odors, the combination of a closed reservoir adapted to hold the odorous liquid, openings provided in the periphery of said reservoir, atomizing-tubes threaded into said openings and a pocket composed of absorbent material secured over the discharge ends of the atomizing-tube, for the purpose described.

2. In a device for distributing odors, the combination of a revolving reservoir adapted to be carried by the shaft of a rotary fan, hollow tubes threaded into openings provided in the periphery of the said reservoir, a perforated diaphragm secured over the inner end of the tube, a filling of absorbent material provided in the end of the tube adjacent to the said diaphragm, and a pocket composed of absorbent material secured over the free ends of the atomizing-tube, substantially as described.

3. The combination with a revolving fan of a receptacle or reservoir adapted to hold an odorous fluid, atomizing-tubes communicating with the said reservoir, radially-disposed spring-arms secured to the rear of the reservoir and oppositely-disposed hooked ends provided on said spring-arm adapted to engage the opposing edges of the fan-blades and hold the device in position, substantially as described.

4. The combination with a revolving fan, of a reservoir carried thereby adapted to hold an odorous liquid, radially-disposed atomizing-tubes connected with said reservoir, a circular guard surrounding the fan-blades, means for supporting said guard, and an adjustable band having its inner surface composed of absorbent material carried by the said guard, for the purpose, substantially as described.

5. The combination of a closed receptacle

or reservoir, screw-threaded apertures formed in the periphery of said reservoir, radially-disposed tubes threaded into the said apertures, means for checking the flow of liquid through said tubes, a skeleton frame secured to the ends of the tubes, and a pocket composed of absorbent material supported by the skeleton frame having its open end secured around the tubes adjacent their ends, substantially as described.

In witness whereof I have hereunto set my hand this 14th day of March, A. D. 1901.

CHARLES T. BRADSHAW.

Witnesses:

CHARLES H. SPECKMAN,

JNO. T. CROSS.