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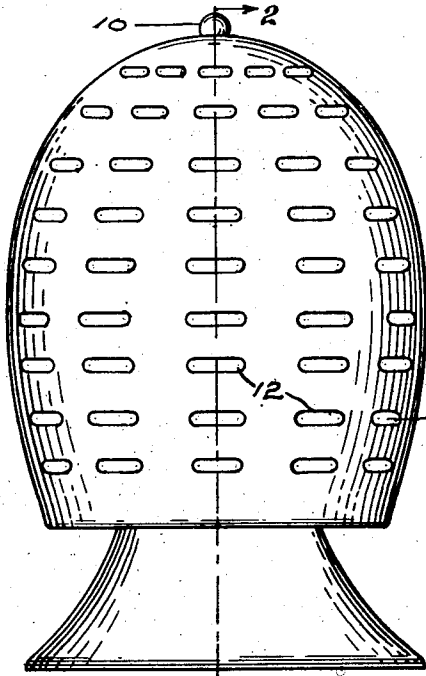


Fig. 1.

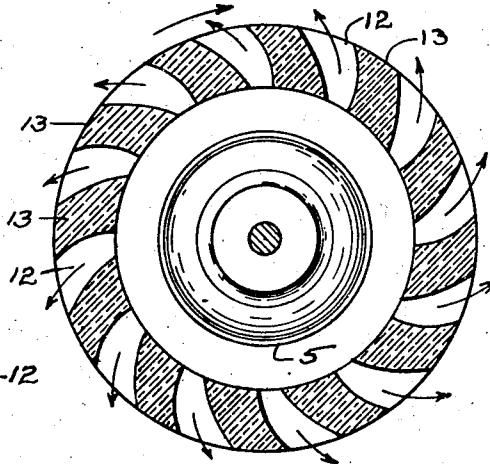


Fig. 3.

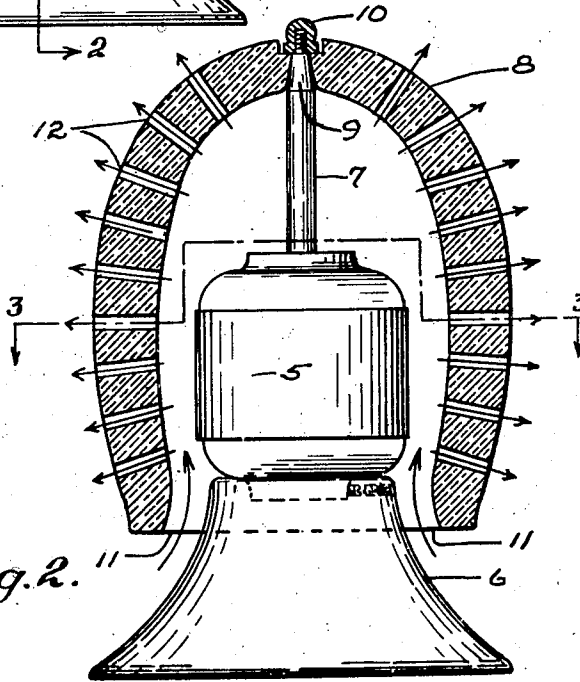


Fig. 2.

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# UNITED STATES PATENT OFFICE

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5 Claims. (Cl. 230—259)

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This invention relates to fans, and relates more particularly to so-called desk fans.

The usual desk fan is unsightly due to the arrangement of the blades and motor, and has the additional disadvantage that the air is projected therefrom in a relatively narrow stream.

This invention provides a desk fan which is not only ornamental but which projects air outwardly from the fan in all directions as well as upwardly and downwardly.

In one embodiment of the invention, a rubber bowl is supported in an inverted position over and around a fan motor having a vertically extending shaft, and forms a fan wheel, the wheel having a plurality of spiral slots formed therein for providing fan blades therebetween.

Objects of the invention are to improve the performance, safety and appearance of desk type fans.

The invention will now be described with reference to the drawing, of which:

Fig. 1 is a side elevation of a desk fan embodying this invention;

Fig. 2 is a sectional view along the lines 2—2 of Fig. 1, and

Fig. 3 is a sectional view along the lines 3—3 of Fig. 2.

The symmetrical bowl 8 which may be of rubber or other suitable material, is inverted over and around the motor 5, and has an upper central aperture which extends closely around the tapered upper portion 9 of the vertically extending motor shaft 7. The upper portion of the shaft 7 is threaded and the nut 10 is screwed thereon against the upper surface of the bowl 8 around the shaft portion 9 and retains the bowl in position upon the shaft for rotation therewith.

The motor 5 is supported upon the base 6.

The lower end of the inverted bowl 8 is spaced from the base 6 for forming therearound an air inlet passage 11.

The bowl 8 has formed therein a plurality of inwardly converging, spiral slots 12 which extend through its walls, and which have their outlets arranged in a plurality of horizontal rows, the slots in each row being so shaped and spaced as to form therebetween, wall portions 13 which are backwardly curved with respect to the direction of rotation of the bowl, and which form backwardly curved fan blades as illustrated by Fig. 3.

In operation, when the bowl 8 is rotated by the motor 5, the wall portions 13 in each of the rows of slots 12, act as backwardly curved fan blades and draw air through the inlet passage 11 and project the air through the slots 12 in all directions around the fan as illustrated by Fig. 2.

The motor 5 is hidden from view by the symmetrically arranged bowl 8 providing an ornamental construction.

The bowl 8 is preferably formed from rubber

or other soft and resilient material whereby no injury can be caused by accidentally touching the bowl when it is rotating.

While one embodiment of the invention has been described for the purpose of illustration, it should be understood that the invention is not limited to the exact construction illustrated as modifications thereof may be suggested by those skilled in the art without departure from the essence of the invention.

What is claimed is:

1. A fan comprising a base, a motor supported with vertically extending shaft on said base, an inverted bowl having relatively thick walls, and means attaching said bowl to said shaft for rotation therewith, said bowl having a lower open end spaced from said base and forming an air inlet passage around same, said bowl having a plurality of slots formed therein, the walls of said bowl between said slots forming fan blades.

2. A fan comprising a base, an electric motor supported with vertically extending shaft on said base, and an inverted bowl attached to the upper end of said shaft and extending around said motor and the upper portion of said base, said bowl having an open lower end spaced from said base and forming an air inlet passage therearound, said bowl having relatively thick walls with a plurality of slots formed therein, said walls between said slots forming therebetween fan blades, said walls having thicknesses greater than the widths of the inner openings of said slots.

3. A fan comprising a base, an electric motor supported with vertically extending shaft on said base, and an inverted bowl attached to the upper end of said shaft and extending around said motor and the upper end of said base, said bowl having an open lower end spaced from said base and forming an air inlet passage therearound, said bowl having relatively thick walls with a plurality of spiral slots formed therein, said walls between said slots forming fan blades, said slots extending upwardly, downwardly and outwardly through said walls whereby the blades formed therebetween move air in a plurality of directions at different angles to said shaft.

4. A fan according to claim 2 in which said slots diverge outwardly and are formed in spirals.

5. A fan according to claim 3 in which said slots are backwardly curved with respect to rotation of said motor.

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## REFERENCES CITED

The following references are of record in the file of this patent:

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