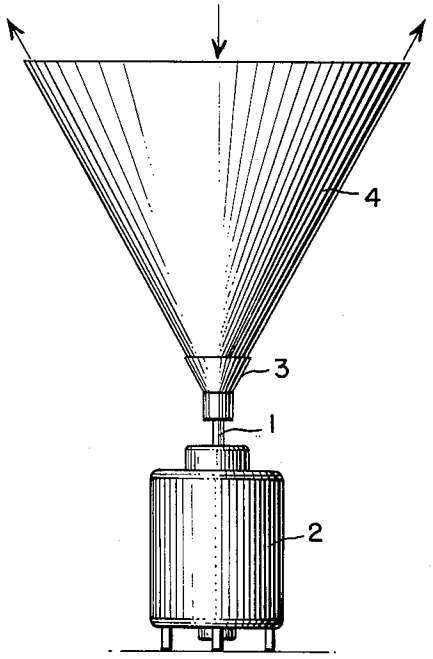
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DEVICE FOR CIRCULATING FLUIDS

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INVENTOR

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DEVICE FOR CIRCULATING FLUIDS

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1 Claim. (Cl. 230—134)

The invention relates to a device for circulating air.

The invention is illustrated by way of example in Figure 1. Figure 1 is a side view of the apparatus of the invention for the purpose of circulating air, as a ventilator.

The apparatus shown in Figure 1 comprises a rotating shaft 1 driven, in this example, by an electric motor 2, arbor 3, and—mounted in this arbor 3—the rotor 4.

This rotor 4 is the substance of the invention. The rotor 4 is an element in the shape of the mantle of a truncated cone. In the assembly shown in Figure 1, the rotor 4 is a funnel which at its apex is mounted in the arbor 3.

I found that if such a funnel rotates around its axis, the fluid, in this case the air of the room, which is within the funnel will be taken along by the rotating walls of the funnel and will be thrown out by centrifugal momentum as indicated by the arrows. Consequently, in the center zone of the funnel a partial vacuum is created and new air from the room will enter, as indicated by the feathered arrow, into this center zone to be recirculated into the room under the action of the rotating walls of the funnel.

It is the simplicity of this rotor which is of advantage. One important point is the safety against human accidents. Such a rotating funnel will not harm the hand or finger. Second, a minimum noise is caused by this rotor because there are no pulsations of air caused by the rotating element. Third, the shape of the funnel is easy to construct in light thin-walled material. Such a funnel shape has a great specific strength per weight of material used and is very rigid against torque vibrations. This even creates the possibility of making this cone from paper or foil.

Having now described the nature of my invention and having shown by way of examples the manner by which it may be performed, I claim as my invention:

An air circulator consisting of an imperforate funnel fabricated of light-weight foil, said funnel having an apex zone, a conical side wall and a rim zone defining a hollow center space walled by said conical wall, a rotating shaft secured to said funnel at the apex zone coaxially with the geometrical axis thereof whereby the rotation of the funnel creates a partial vacuum in said hollow center space adjacent the axis of said funnel which entrains air from the space beyond said rim zone and recirculates the air into space coaxially adjacent to said space with reference to the geometrical axis of the funnel, by centrifuging the entrained air along the surface of said side wall in the direction from said apex zone to said rim zone and said rotation increases the rigidity of the foil against torque vibrations.

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