Jan. 14, 1936. H. H. C. FULLER 2,027,687

ELECTRIC FAN

Filed Oct. 2, 1935

Fig. 1.

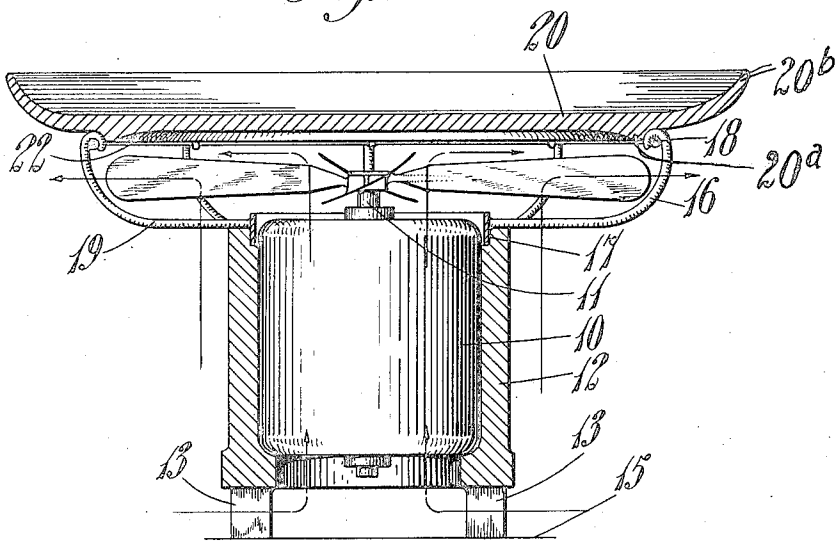
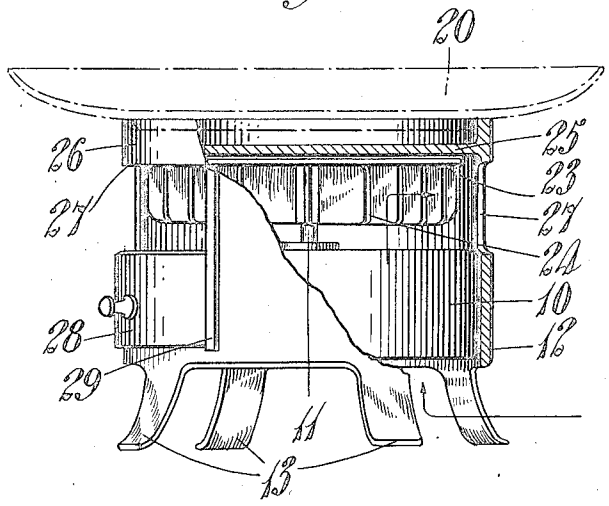


Fig. 2.



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ELECTRIC FAN

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2 Claims. (Cl. 230—274)

This invention relates to electric fans, and it has for its object to provide an improved form and construction of fan which is intended for table use, and which is specially arranged so as to produce a delivery of air which is substantially uniformly distributed around the whole circumference of the fan, said air being projected in a somewhat horizontal direction so as to create the most beneficial, pleasant and efficient circulation.

To this end the invention provides a table fan arranged to direct a current of air radially outwards in a substantially horizontal direction, and comprising in combination: an open-ended tubular stand vertically mounted on feet or the like by which the ingress of air is allowed and enclosing an electric driving motor, an open casing above said motor and containing an air impeller disposed with its axis of rotation vertical, and a support above the impeller for a dish-like receptacle for the accommodation of fruit, flowers, refreshments or other table appurtenances. The invention further provides a table fan of a similar form, comprising in combination, an open-ended tubular stand supported vertically upon feet, an electric motor vertically disposed within the stand, an air impeller fixed on the upper end of the motor shaft, an open casing for said impeller, and an annular support above the level of the impeller for receiving any suitable dish-like receptacle upon which the air stream will impinge and by which the stream will be deflected to flow outwardly in a substantially horizontal direction. The improved table fan may also, if desired, comprise in combination, an open-ended tubular stand supported vertically upon feet, an electric motor vertically disposed within the stand, an impeller fixed on the upper end of the motor-shaft and adapted to direct an air stream drawn through the stand in an outward and substantially horizontal direction, an open casing for said impeller, and an annular support above the level of the impeller for receiving a dish-like receptacle. The stand may be supported on feet or be otherwise provided with lower openings for the admission of air which passes through the driving motor under the action of the impeller.

The invention is illustrated by way of example in the accompanying diagrammatic drawing in which

Figure 1 is a sectional elevation of one form of table fan; and

Figure 2 is a fragmentary sectional elevation showing a modified form of construction, the receptacle being indicated in broken lines.

Referring firstly to Figure 1, it will be seen that a driving motor 10 having a vertical spindle 11 is fitted within a stand or pedestal 12, which latter is supported upon three or more feet 13 so as to provide lower openings 14 when the stand 12 is disposed upon the surface of a table indicated at 15.

At its upper part the stand 12 carries an open casing 16 conveniently composed of an attachment ring 17 and a concentrically arranged supporting wire ring 18, these two parts being joined by a plurality of radial wires 19. The wire ring 18 serves as an annular support for a dish-like head 20 forming the upper part of the device, the diameter of said ring preferably being substantially equal to or more than the outside diameter of an impeller in the form of a bladed fan 21 secured to the upper end of the spindle 11. The fan 21 is thus rotated by the motor 10 when the latter is fed with electricity, and produces an upwardly moving current of air which impinges against the under surface 22 of the head 20 by which it is deflected radially outwards in a substantially horizontal direction. As the head is formed with a depending annular bead 20^a about which the ring 18 fits, the head will be firmly held against transverse movement and cannot accidentally slip out of its proper position. The upwardly curved marginal portion 20^b of the head provides a bordering flange for the same, as well as assisting in directing outward movement of air from the impeller. When the driving motor 10 is of the open-ended type a part of the air induced by the fan 21 passing through the openings 14, will be drawn through the interior of the driving motor, thus cooling the latter in the generally known manner and enabling a comparatively high current rating to be employed.

The actual design of the stand and associated parts can, of course, be modified to suit any particular decorative scheme or mode of manufacture, and a somewhat differently shaped stand is accordingly illustrated in Figure 2. In this instance, the driving shaft 11 of the motor 10 is fitted with an impeller which in itself is adapted to create a radially outward horizontal flow of air: Such an impeller comprises a disc 23 having a plurality of radially arranged blades 24 perpendicularly depending therefrom. Further, the stand 12 which is provided with feet 13 as before is axially extended upwardly, and is provided with a top 25 formed with a circum-

ferential annular flange **26** serving to support the receptacle **20**.

The outflow of air from the impeller **23** is delivered through a series of apertures **27** formed in the stand **12**, the upper part of which, therefore, serves as the open casing for permitting the horizontal outflow of air.

In the example shown in Figure 2 one or more of the apertures **27** may each have associated therewith a shutter member **28** fitted between slides **29** extending vertically at opposite sides of the aperture, so that, if it is desired to reduce or entirely stop the radial current of air in one particular direction, it is only necessary to raise the corresponding shutter member **28** to a partly or completely closed position, when, of course, the outflow of air in that particular direction will be diminished without appreciably affecting the discharge in other directions.

As the improved fan is intended for table use, the stand and its associated parts should be of a pleasing appearance, said stand being very suitable for construction from moulded material, such as synthetic resin, from which material the receptacle can also be manufactured so as to harmonize with the stand. The device according to the invention may most conveniently be arranged to serve as a flower stand or other table ornament by forming the stand in an appropriate manner.

It is found in practice that the improved device is very useful, combining as it does a radially discharging fan with a utility article in the form of a receptacle, this combination resulting in an extremely useful and pleasing form of stand which is suitable for table decoration.

What I claim to be new is:

1. A table fan comprising an open ended tubular stand having supporting feet at its bottom, a motor disposed vertically in said stand, an air impeller fixed to the upper portion of the motor shaft above said stand, an open casing for said impeller carried by said stand and disposed above the same about said impeller, and a disc resting upon said casing and having a depending annular bead surrounded by said casing to hold the disc in place upon the casing, said disc having its marginal portions projecting outwardly beyond the casing and curved upwardly to provide a bordering flange for the disc and adapting the disc to serve as a deflector for directing air outwardly from sides of the casing and also as a tray.

2. A table fan comprising an open-ended tubular casing having supporting feet at its bottom, a motor disposed vertically in said stand with its shaft projecting upwardly above the stand, an impeller fixed upon the upper portion of the motor shaft above the stand, an open casing carried by said stand about said impeller and consisting of a ring fitting snugly within the upper portion of the stand about said motor, arms projecting radially from said ring and outwardly from walls of the stand with their outer portions bent upwardly beyond the impeller, and an upper ring having upper ends of said arms bent about the same to secure the arms to the upper ring, and a disc-like head resting upon the upper ends of arms of the casing and having a depending annular bead encircled by the upper ring to prevent transverse movement of the head when in place, said disc having its marginal portions projecting radially beyond the casing and extended upwardly to form a bordering flange for the head adapting the disc to serve as a deflector for directing air outwardly through sides of the casing and also as a tray.

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