April 9, 1929. S. A. XIPPAS 1,708,197

DECORATED ELECTRIC FAN

Filed March 24, 1927

Fig. 3.

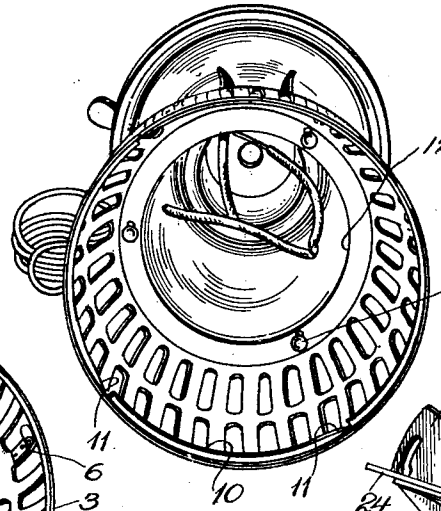


Fig. 2.

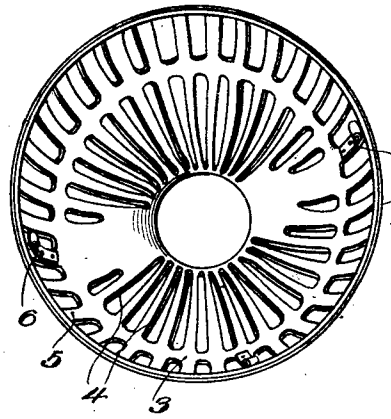


Fig. 4.

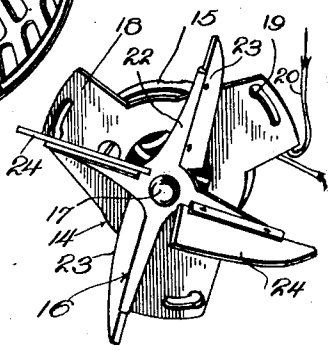
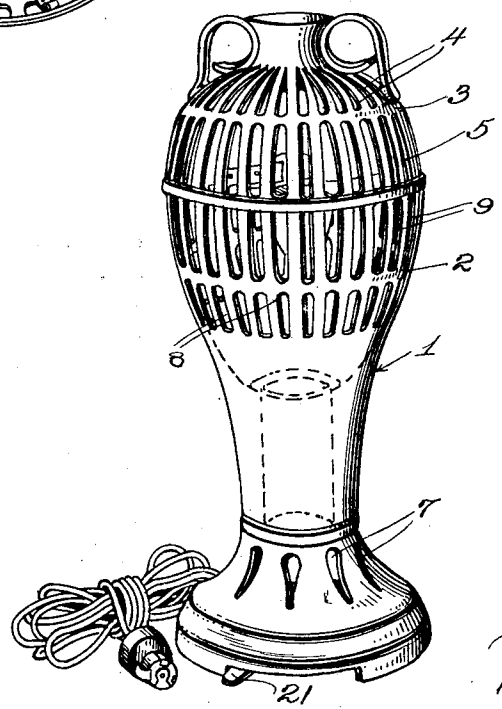


Fig. 1.



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UNITED STATES PATENT OFFICE.

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DECORATED ELECTRIC FAN.

Application filed March 24, 1927. Serial No. 177,921.

This invention relates to improvements in electric fans and more particularly to fans of the vertical shaft type.

In my Patent No. 1,577,280, March 16, 1926, I have disclosed a fan in which the blast device is enclosed in a spherical casing, the blades of the blast device being so arranged that they draw air axially into the upper and lower ends of the casing, force this air toward the medial portion of the blast device, and then discharge the air in a horizontal medial zone. The present invention is directed toward specifically improving the ventilating fan shown in that patent.

One of the objects of the invention is to provide a fan of this character having an ornamental casing simulating a vase, the casing being perforated at proper points to admit air through the ends of the casing and to discharge the same tangentially through the central or medial portion of the casing.

Another object is to provide such a fan in which the ornamental casing is made of upper and lower sections provided with novel fastening devices for coupling the same together.

A still further object of the invention is to furnish a fan of this character in which the motor and blast device unit may be quickly attached or detached to a mounting within the casing, the parts being so arranged that when the upper section of the casing is removed, the motor and blast device may be readily removed from the lower part of the casing.

With the foregoing objects outlined and with other objects in view which will appear as the description proceeds, the invention consists in the novel features hereinafter described in detail, illustrated in the accompanying drawings and more particularly pointed out in the appended claims.

Referring to the drawings,

Fig. 1 is a perspective view of a ventilating fan embodying the present invention.

Fig. 2 is a similar view of the top section of the casing, viewed from its lower end.

Fig. 3 is a perspective view of the lower portion of the casing, looking from the top of the same.

Fig. 4 is a similar view of the blast device and motor unit, viewed from its upper end.

In the drawing, 1 designates the casing of my improved ventilating fan which, as shown, simulates a vase, and consists of a lower section 2 and an upper section 3.

The upper section is provided with inlet openings 4 and outlets 5, and its lower edge has internal resilient fastening clips 6.

The lower section is provided near the bottom of the same with air inlets 7, and near the top of the same, with inlets 8 and outlets 9. The openings for the admission and discharge of the air are preferably stamped out of the metal or the like which forms the casing, and they are preferably elongated vertically so as to enhance the appearance of the fan.

As best shown in Fig. 3, the upper edge of the section 2 is provided with an internal substantially annular flange 10, interrupted at spaced points by notches 11 which receive the clips 6 when the top 3 is placed on the lower section. When the parts are in this position, and the top is turned relatively to the base section, the clips 6 interlock with the flange 10 in a manner similar to a bayonet and slot joint, and due to the resiliency of the clips 6, the parts are prevented from accidentally uncoupling, due to vibration. Of course, whenever desired, the top may be readily removed by simply turning the top until the clips 6 register with the notches 11, and then lifting the top upwardly.

From Fig. 3 it may be seen that the base section is provided with an internal annular shoulder 12 having upwardly extending spaced pins 13 provided with heads spaced from the shoulder.

The shoulder is adapted to support the combined motor and blast device unit 14, shown in Fig. 4. This unit includes the motor 15 and the blast device 16, the latter being driven by a vertical shaft 17 extending upwardly from the motor. The motor casing is provided with a plurality of radially extending flat arms 18, adapted to rest on the shoulder 12 when the parts are assembled. Each arm has a key-hole slot 19 to receive the pins 13. After the pins are inserted through the enlarged portions of these slots, the arms may be turned to bring the pins into the narrow portions of the slots, and this will serve to anchor the unit 14 in position in the casing. Obviously, the blast device and motor may be readily removed from the casing when the top 3 is off of the latter, by simply turning the arms 18 until the enlarged ends of the slots 19 regis-

ter with the pins 13. Then the unit is lifted out of the casing.

The motor is of the electric type and the current is fed to the same by wires 20.

21 indicates the usual switch handle for controlling the motor.

The blast device, as in my patent above mentioned, comprises a spider 22 having diametrically opposite arms supporting depending blades 23. The other pair of arms carry upwardly extending blades 24.

When the parts are assembled, the entire blast device is arranged above the shoulder 12, and is within the upper perforated half of the casing. Due to the arrangement of the blades, the blast device will draw air into the casing through the polar openings 4 and 7, and through lowermost medial openings 8. The fan blades not alone draw air into the casing from above and below, but as soon as the fan blades engage the air, they force the two oppositely moving polar streams toward the spider 12, where these streams commingle and are then forced tangentially by the root portions of the blades outwardly in a substantially horizontal direction through the medial openings 5 and 9.

It has been found in practice, that when this fan is in operation, it will draw air from the upper and lower portions of a room and spread the same gently through the medial portion of the room. In this way, the warm air near the ceiling is commingled with cooler air near the floor, and these commingled streams are organized and discharged tangentially in a substantially horizontal zone. The fan not alone distributes the air without any strong direct draft, but it has a pleasing appearance capable of adding to the ornamental effect of any compartment.

From the foregoing, it is believed that the construction, operation and advantages of the invention may be readily understood by those skilled in the art, and I am aware that changes may be made in the details disclosed without departing from the spirit of the invention as expressed in the claims.

What I claim and desire to secure by Letters Patent is:

1. A ventilating fan of the character described, including a sectional casing, provided with a horizontally disposed internal annular shoulder, a combined motor and impeller unit having arms resting on said shoulder, and means for securing the arms to the shoulder.

2. In a ventilating fan, a substantially vase-shaped sectional casing perforated at its upper portion, an internal shoulder arranged in the casing below the perforations of the same, and a combined motor and impeller unit arranged in the casing and having arms resting on and secured to said shoulder, the impeller being arranged in the perforated portion of the casing.

3. A ventilating fan including a perforated casing having an internal annular shoulder provided with spaced pins, a combined motor and impeller unit arranged in the casing and having arms resting on said shoulder, each of said arms being slotted to receive one of said pins.

4. In a ventilating fan of the character described, a perforated casing consisting of upper and lower sections detachably connected together, a support in the casing, a motor in the casing detachably connected to said support, a shaft driven by the motor, and an impeller driven by the shaft, said motor, shaft and impeller forming a unit, and said unit being removable through the upper end of the casing when the upper section of the latter is removed.

In testimony whereof I affix my signature.

SOCRATES ANTHONY XIPPAS.