

UNITED STATES PATENT OFFICE.

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ELECTRIC FAN AND HEATER.

Application filed November 16, 1925. Serial No. 69,550.

This invention relates to means for heating a current of air which may or may not be charged with medicinal or other vapors as desired, and consists in a rotatable fan with a supporting housing and an electric heater detachably mounted adjacent the fan so that the current of air induced by the fan may pass through the heater.

The invention consists in the details of construction illustrated in the accompanying drawing and particularly pointed out in the claim.

In the drawing, Fig. 1 is an elevation of our combined fan and heating mechanism. Fig. 2 is a central vertical section of the heater and its casing. Fig. 3 is a plan of the heating elements. Fig. 4 is a vertical section on a larger scale of a portion of the attaching mechanism for the heater. Fig. 5 is a similar detail of another portion thereof. Fig. 6 is a section of the coupling for the circuit wires for the heater. Fig. 7 is a detail showing a support for an electric light.

Similar reference characters refer to like parts throughout the several views.

The construction of the electric motor connections, of the bell-shaped housing for the motor and of the means for supporting the lamp socket which is shown here in Fig. 7, form no part of the present invention, as they are described and shown in the Thomas E. Clark application Serial Number 330,282, filed October 13, 1919, and any other suitable motor installation may be employed. The present drawing shows the same bell-shaped housing 1 having apertures 2 and the rounded lower edge 3. A fan 4 is mounted on the lower end of the armature shaft 5, the motor being enclosed in the housing 1 and not shown. A jacket 6 of open-work fabric of any desired character may be placed over the flaring apertured lower portion of the housing and the liquids which are to be employed to charge the heated air are poured or sprinkled onto this fabric. It is to be understood that the fan may be driven to cause the current to pass in either direction through this jacket.

The heating elements may be of any desired construction, but preferably consist of upright plates 10 of mica which are mounted in a light spider of sheet metal having arms 11 and connecting members 12, the arms being U-shaped to receive the plates

10, and their ends being attached to the bowl-shaped casing 13 by means of rivets or screws 14.

The plates 10 are perforated to receive the resistance-wire coil 15 whose ends connect to the screws 16 and the wires 17 and 18, which in turn are attached to the connecting pins 19 by means of the screws 20. Other wires 21 and 22 extend down from within the housing 1 and connect to the sleeves 23 by means of the screws 24. Blocks 25 and 26 of insulating material may be employed to unite the pins 18 and sleeves 23 respectively.

The casing 13 has a neck 28 through which air passes to or from the fan, depending on the direction the fan is rotated, and a butterfly valve 29 on a stem 30 may be employed to control the current. The casing is provided with a plurality of upwardly extending ears 32 and 33, which are adapted to fit with the rounded lower edge 3 of the motor housing, the ear 33 being resilient, as indicated in Fig. 4, and provided with an arm 35 by means of which this ear may be swung out of engagement with the edge 3, after which this side of the casing 13 may be lowered and the other ears 32 disengaged. A knob 36 on the outside of the housing 13 constitutes an anchorage for the hand which operates the arm 35, although this knob may be omitted if desired.

The wires 17 and 18 and the wires 21 and 22 will be connected after the heater housing is positioned, and this connection will be broken before the housing is removed. It can also be broken to interrupt the current to the heating element and thus this connector constitutes a switch.

The frame shown in the prior application Serial Number 330,282 may be substituted for the heater, this frame consisting, as shown in Fig. 7, of a contractible ring 38, transverse arms 39 and a central ring 40 to support the electric light socket 41. The wires 42 and 43 are similar to the wires 17 and 18 and the block 45 and pins 46 to the block 25 and pins 19.

The details of construction and proportions of the various parts may all be changed without departing from the spirit of our invention as set forth in the following claim.

We claim:—

In an electric fan and heater, the combination of a bell-shaped housing having aper-

tures in its flaring portion, an electric motor mounted in the smaller portion of the bell, a fan mounted on the outer end of said motor, a bowl-shaped heater casing detachably connected to said bell at their edges, heating elements within said bowl, said bowl having a central discharge opening, conductor wires for said heating elements, and a separable two-part connector for said conductor wires, one part being attached to the bell and the other to the bowl to permit ready detachment and attachment of the bowl and heater. 10

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