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D. WEISZ

AIR COOLING OR HEATING APPARATUS

Filed Aug. 17, 1925

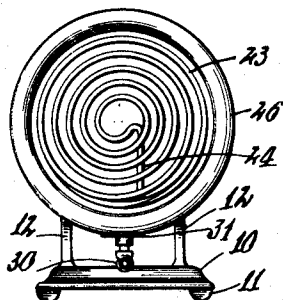


FIG. 1.

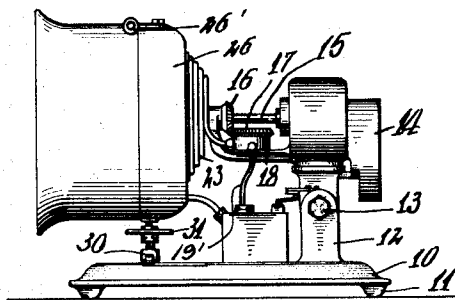


FIG. 2.

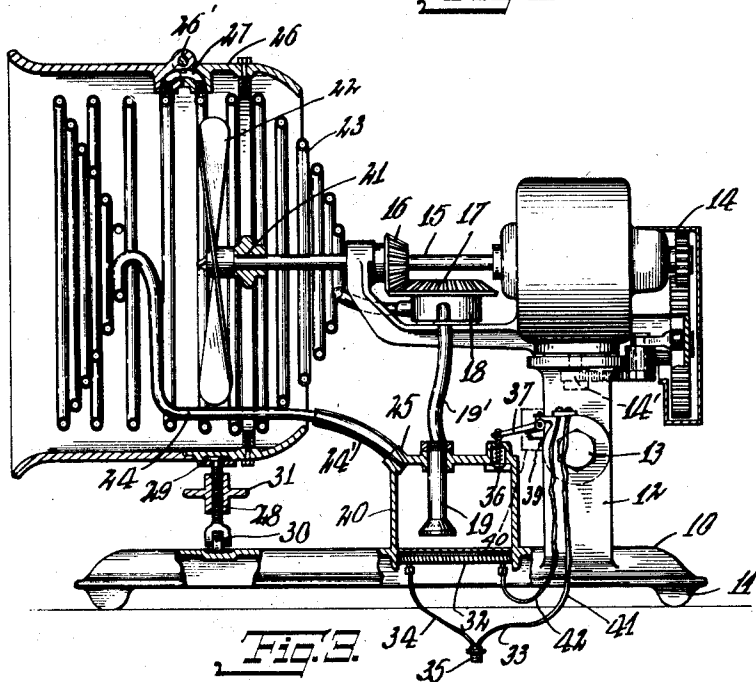


FIG. 3.

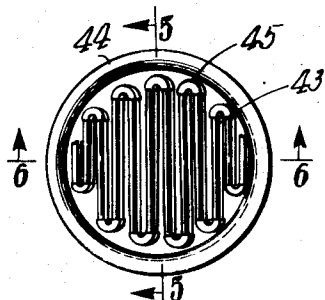


FIG. 4.

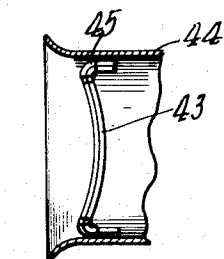


FIG. 5.

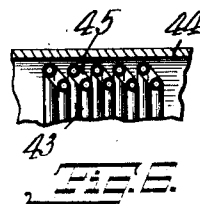


FIG. 6.

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AIR COOLING OR HEATING APPARATUS.

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This invention relates to improvements in fans particularly oscillating electric cooling and heating fans, and it is the principal object of the invention to provide a fan in which the cooling or heating medium within a container is circulated around the fan by means of a motor driven pump.

Another object of the invention is the provision of a fan of the above type equipped with means allowing a raising and lowering of the fan to a certain degree within certain limits without interfering with its oscillating movements.

A still further object of the invention is the provision of a motor operated fan equipped with a pressure valve for regulating the heating capacity.

A still further object of this invention is the provision of a motor operated fan enclosed in a bi-partite housing of simple and inexpensive construction yet durable and efficient and allowing a ready inspection and cleaning.

It is furthermore one of the objects of my invention to provide a fan, the heating or cooling medium of which is circulated through a sectional conduit arranged in a suitable manner.

These and other objects and advantages of the invention will become more fully known as the description thereof proceeds and will then be specifically pointed out in the appended claims.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a front end elevation of an oscillating fan constructed according to the present invention.

Fig. 2 is a side elevation thereof.

Fig. 3 is a sectional side elevation of the fan with the casing in section according to my invention on an enlarged scale.

Fig. 4 is a front elevation of a modified form of coil in the casing.

Fig. 5 is a section on line 5—5 of Fig. 4.

Fig. 6 is a section on line 6—6 of Figure 4.

The fan constructed according to the invention as illustrated in the drawing comprises a base 10 on feet 11 and which carries posts or standards 12 between which is pivotally secured, as at 13, a support carrying at one end a motor of any desired suitable type equipped with the customary oscillating mechanism within a casing 14, having a stem 14', turnably arranged in the support;

the motor shaft 15 carries a bevel gear 16 in mesh with a bevel gear 17 on the shaft of a water pump within casing 18 which carries also an agitator 19, in the upper wall of a container 20 or the like on the base 10 and connected by a flexible connection 19' to the pump. The function of the agitator is to insure a thorough mixing of the fluid in the container 20. The motor shaft 15 carries at its end a suitable bearing 21 for the fan blade or blades 22.

A water circulating pipe or conduit 23 is guided about the fan in a plurality of convolutions, one end of which has attached thereto an exhaust pipe 24 having a flexible pipe 24' attached thereto, the opposite end of which enters the container 20 to return the cooling or heating medium contained therein to said container after the performance of its work and for this purpose is equipped with a suitable nipple 25.

Fan and circulating pipe are surrounded by a casing 26 open at the rear and front, and composed of two parts hinged together as at 26', while a removable joint 27 connects the convolutions of pipes 23 and 24 allowing a separation of these, and the casing parts for inspection and cleaning purposes.

The casing 26 and its contents may be elevated and lowered above and below the horizontal by means of two separate stem portions having right and left hand threads, respectively, indicated on the drawing by numeral 28, upon which is threaded a nut or adjusting sleeve 31 which operates in the nature of a toggle joint. The upper end of the top stem 28 is secured to a socket 29 on the fan casing 26, while the lower end of the lower stem 28 is provided with a roller 30 engaging a depression in the base 10.

If desired or required the water contained in container 20 is heated by means of a heater 32, located near the bottom of the container and adapted to be attached to the source of electricity by the leads 33, 34 leading to a suitable plug 35.

In order to relieve the pressure in casing 20 when the same rises beyond a predetermined degree, a relief valve 36 is shown at the top of container 20 adapted to operate a lever 37 which is at one end engaged by the stem of valve 36, while its other end operates switch 39 in box 40, adapted to connect or disconnect the motor 14, as the case may be from the circuit with which the switch is connected by the leads 41, 42.

In the modified form of the invention illustrated in Figures 4, 5 and 6, the circulating pipe for the heating or cooling medium 43 is arranged in the manner illustrated in the form of closely engaging nests of tubes arranged in the manner shown within casing 44, the ends of the convolutions being connected by elbow joints 45.

The operation will be entirely clear from the above description and needs no further explanation, and it is to be understood that such changes may be made in the construction of the fan, as shown and described as an example of the many modifications of which it is capable, such as come within the scope of the appended claims without departure from the spirit of the invention or the principle involved.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a device of the class described, having a fan blade and a fluid circulating pipe formed into a plurality of convolutions in

two sections in the front and rear of said fan blade respectively, the combination of a casing opened at the rear and front, said casing being composed of two parts hinged together at the top, and said hinge connection being formed with a movable joint connecting the sections of said convolutions in the front and rear of said fan blade.

2. In a device of the class described, having a fan blade and a fluid circulating pipe formed into a plurality of convolutions in two sections in the front and rear of said fan blade respectively, the combination of a casing, said casing being composed of two parts hinged together at the top, said hinge connection being formed with a movable joint connecting the sections of said convolutions in the front and rear of said fan blade, and means for adjustably supporting the casing.

In testimony whereof I have affixed my signature.

DEZSÖ WEISZ.