

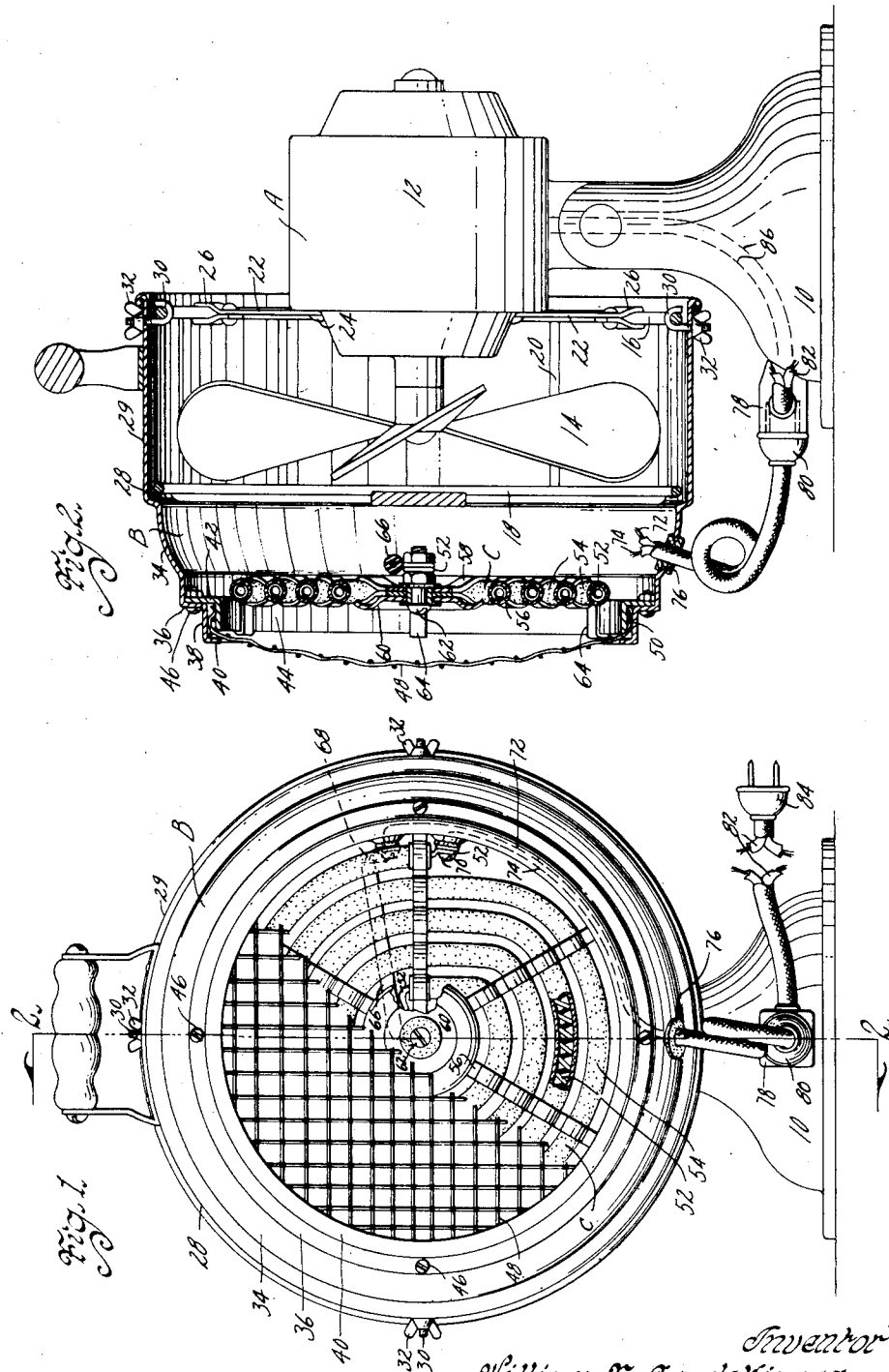
Nov. 27, 1934.

W. E. GUNDELFINGER

1,982,382

HEATER ATTACHMENT FOR FANS

Filed Dec. 26, 1931



Witness
Edw. Seely

Inventor
William E. Gundelfinger
by Bair, Treman & Sinclair
Attorneys

UNITED STATES PATENT OFFICE

1,982,382

HEATER ATTACHMENT FOR FANS

William E. Gundelfinger, St. Louis, Mo., assignor
to Knapp-Monarch Company, Belleville, Ill., a
corporation of Missouri

Application December 26, 1931, Serial No. 583,168

7 Claims. (Cl. 219—39)

The object of my invention is to provide a heater attachment for fans which is simple, durable and comparatively inexpensive to manufacture.

5 A further object is to provide an electric heater attachment adapted for support on an existing electric fan, whereby the attachment may, upon energization, heat air circulated by the fan and thus make the fan of service in winter as well as
10 summer.

A further object is to provide a readily detachable heater attachment which can be removed in the summer time if desired and to also provide a detachable electric connection for the
15 heater so that the supply of current to the heater can be discontinued either when removing the heater attachment from the fan or with it still in position but when it is undesirable to heat the air being circulated by the fan.

20 More specifically, it is an object of my invention to provide a heater attachment in the form of a cylinder having a heating element at one end thereof with the other end thereof adapted to fit over and enclose the fan guard of an exist-
25 ing electric fan, with readily operable means such as hook bolts being provided for detachably supporting the attachment on the guard for the fan.

With these and other objects in view my invention consists in the construction, arrange-
30 ment and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawing, in which:

35 Figure 1 is a front elevation of my heater attachment, showing it supported on an electric fan and with a portion of a guard screen broken away to show the construction of the attachment.

40 Figure 2 is a vertical sectional view on the line 2—2 of Figure 1 showing a side elevation of the same and illustrating the heater attachment in section.

45 On the accompanying drawing, I have used the reference character A to indicate generally an electric fan and B to indicate my heater attachment therefor. The fan A comprises a base 10, a motor 12, fan blades 14 and a fan guard.

50 The fan guard ordinarily comprises inner and outer rings 16 and 18, respectively, held assembled with relation to each other by cross bars 20, arms 22 being provided for attachment at 24 to the motor 12 and at 26 to the rings 16 for supporting the fan guard on the motor.

55 My heater B is particularly adapted for ready

attachment to such an electric fan and comprises a cylinder 28 having a heating element C therein. The cylinder 28 has an enlarged portion 29 adapted to fit over the fan guard, as clearly illustrated in Figure 2 and which is suitably secured thereto for supporting the heater attachment. By way of illustration, I have shown hook bolts 30 and wing nuts 32 for this purpose. The hooks of the bolts 30 hook over the ring 16, the bolts extend through perforations in the cylindrical portion 29 and the wing nuts 32 serve to tighten the hook bolts against the ring 16 for thus positively connecting the heater with the fan guard.

The cylinder 28 has a reduced portion 34 terminating in flanges 36, 38 and 40. A mounting ring having flanges 42 and 44 is bolted to the flange 36 by bolts 46. A protector screen 48 for the heating element C has a peripheral flange 50 between the flanges 38, 40 and 44, whereby to
75 retain the protector screen in position relative to the cylinder 28.

The heating element C comprises a spiral coil of resistance wire 52 embedded in a covering 54 of insulating material, such as fire clay or the
80 like.

Supporting means is provided for the heating element C in the form of a pair of sheet metal members 56 and 58 each having a hub-like center and radial arms. A washer 60 and a bolt 62 are
85 provided at the centers of the hub-like portions of the members 56 and 58 for holding them assembled together. The outer ends of the members 56 and 58 may be spot-welded or otherwise suitably secured together.

90 Either the member 56 or 58 may terminate in fingers 64 adapted to fit around the flange 44 for the purpose of supporting the members 56 and 58 and thereby supporting the heating element C. It will be noted that the members 56 and 58 are
95 corrugated for receiving the covering 54 and holding the successive coils thereof properly spaced from each other.

100 One end of the resistance wire 52 is connected to the bolt 62 and a lead 66 extends from the bolt to a terminal 63. The other end of the wire 52 is connected with a terminal 70. By means of wires 72 and 74 which extend through a bushing 76 inserted through an opening of the cylinder 28, the heating element may be connected with a
105 connection fixture 78. A prong type plug 80 is provided for this purpose.

The fixture 78 has supply wires 82 extending thereinto, which may be connected by a plug 84 with an ordinary service outlet. The supply wires
110

82, besides being connected with the sockets for receiving the prongs of the fitting 80, extend up through the base 10, as indicated at 86, to the motor 12. By this arrangement, the heating element C may be energized all the while the fan motor 12 is being energized or only a part of the time if desired.

It will be obvious that my attachment can be mounted on an oscillating type of electric fan as well as a stationary type. The wires 72 and 74, where they extend from the bushing 76 to the plug 80, are flexible so as to allow oscillation of the fan motor and the heater attachment B therewith and yet maintain electric connection between the fixture 78 and the heating element C.

Some changes may be made in the construction and arrangement of the parts of my device without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents, which may be reasonably included within their scope.

I claim as my invention:

1. A heater structure for fans comprising a support, a ring therein L-shaped in cross section and located adjacent one end thereof, a screen over said end having a peripheral flange held between one flange of said ring and said support, the other flange of said ring being secured to said support and a grid-like heating element mounted within said support adjacent said screen.

2. A heater structure for a fan having a fan guard comprising a supporting member, means for securing said supporting member to said fan guard, an L-shaped ring in said supporting member adjacent one end thereof, a screen over said end having a peripheral flange held between one flange of said ring and said supporting member, the other flange of said ring being secured to said support and a grid-like heating element supported within said supporting member adjacent said screen.

3. In a heater structure for fans, a cylindrical support having an inturned flange at one end thereof, a heating element having supporting arms provided with hooked ends, a cylindrical ring received in said hooked ends and means pre-

venting disengagement of the hooked ends from the cylindrical ring comprising a flange on said cylindrical ring secured to said cylindrical support.

4. In a heater structure for fans, a cylindrical support having an inturned flange at one end thereof, a heating element having supporting arms provided with hooked ends, a cylindrical ring received in said hooked ends, a guard over said heating element having a peripheral flange hooked over said cylindrical ring and means preventing disengagement of the hooked ends of said supporting arms and the peripheral flange of said guard from the cylindrical ring comprising a flange on said cylindrical ring secured to said cylindrical support.

5. A heater attachment for fans comprising a cylindrical support, having an L-shaped end a retainer therein of the same contour as said end of said support and arranged adjacent one end thereof, a screen over said end having a peripheral edge held between the adjacent flanges of the L-shaped retainer and the L-shaped end of said support and a grid-like heating element mounted within said support adjacent said screen.

6. A heater attachment for a fan having a fan guard comprising a cylindrical supporting member, means for securing said supporting member to said fan guard, a retainer in said supporting member and of the same contour as the supporting member, said retainer being arranged adjacent one end of said supporting member, a screen over said end having a peripheral edge held between said retainer and said supporting member and a grid-like heating element supported within said supporting member adjacent said screen.

7. A heater attachment for fans comprising a cylindrical support, a retainer therein of the same contour as said support and arranged adjacent one end thereof, a screen over said end having a peripheral edge held between said retainer and said support and a grid-like heating element mounted within said support adjacent said screen, said heating element having its edge retained between said retainer and said support.

WILLIAM E. GUNDELFINGER.

50 125
 55 130
 60 135
 65 140
 70 145
 75 150