

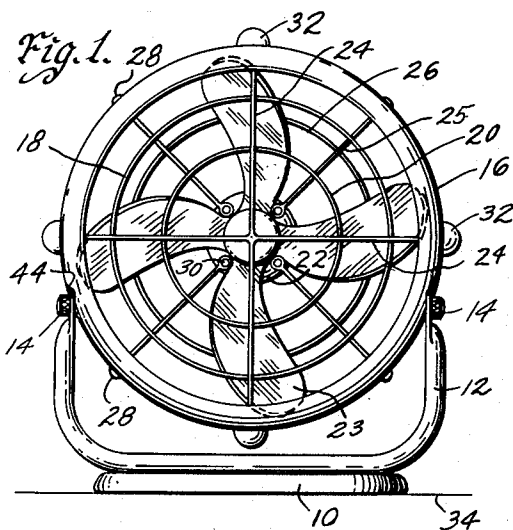
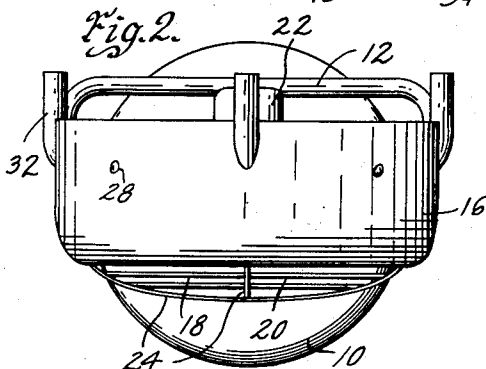
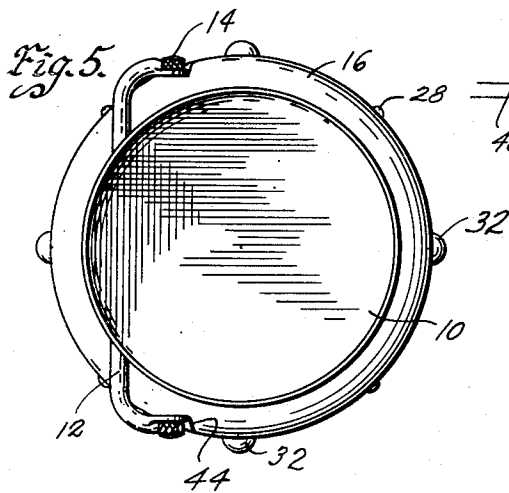
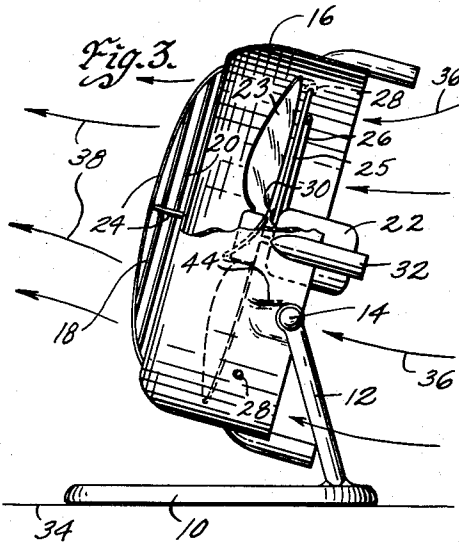
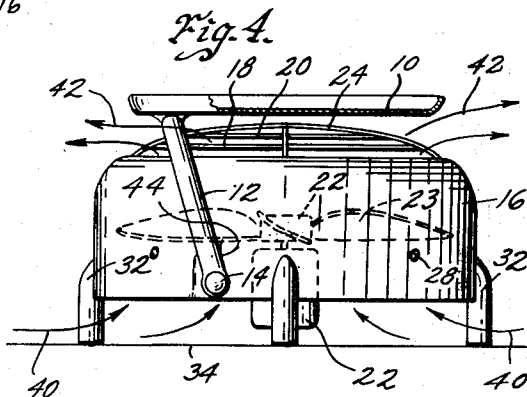
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M. E. LAUTNER

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DUAL-PURPOSE FAN

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INVENTOR.
Max E. Lautner
BY *Bair, Freeman*
& Molinare
Attys.

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DUAL-PURPOSE FAN

Max E. Lautner, Webster Groves, Mo., assignor
to Knapp-Monarch Company, St. Louis, Mo.,
a corporation of Delaware

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This invention relates to a "dual purpose" fan or one which can be used either as a directional blast fan or floor circulator.

One object of the invention is to provide a combination fan from which either a directional blast air pattern or a floor-type circulator air pattern can be had with a single fan unit.

Another object is to provide a single fan unit and a supporting base therefor which are so related to each other that the base can support the fan unit for operation as a directional blast type of fan, or the fan unit may be directly supported on a floor surface for circulating air upwardly whereupon the base may be adjusted to a position relative to the fan unit to act as a deflector plate for vertically flowing air to cause it to flow in radial directions.

A further object is to provide a dual purpose fan structure that does not require either mechanical or electrical reversing of the motor to secure air flow in the proper direction whether the fan is used as a directional blast fan or a floor-type circulator.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my dual purpose fan, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, wherein:

Figure 1 is a front elevation of a dual purpose fan embodying my present invention adjusted as a directional blast fan.

Figure 2 is a plan view thereof.

Figure 3 is a side elevation of Figure 1 showing the fan unit axis tilted slightly upward.

Figure 4 is a side elevation similar to Figure 3 showing the fan adjusted for operation as a floor-type circulator; and

Figure 5 is a plan view of Figure 4.

On the accompanying drawing I have used the reference numeral 10 to indicate a combination base and deflector. The base 10 has an upright 12 secured thereto which terminates in pivot connections 14 for a substantially cylindrical shroud 16.

The shroud 16 has at one end thereof a wire guard structure consisting of circular wires 18 and 20 and radial wires 24 for the fan blades 23 which are located within the shroud. These fan blades are secured to the shaft of a fan motor 22 and the motor may be supported by a wire guard structure including radial wires 25 and a circular wire 26. The outer ends of the wires 25 are secured as at 28 to the shroud 16 and their

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inner ends are secured as at 30 to the motor 22. The motor is thereby supported by the guard structure 24—26 in such manner that transmission of vibrations from the motor 22 to the shroud 16 is minimized.

The shroud 16 is provided with a plurality of supporting legs 32 which are adapted to support the shroud with its axis vertical as in Figure 4 and its lower open end spaced from a floor surface 34. These legs are sufficiently long to provide the necessary space for air entrance below the lower edge of the shroud as will be hereinafter explained. If desired, the shroud 16 may be provided with a shoulder indicated at 44 for the purpose of limiting the pivotal movement of the deflector 10 to the horizontal position illustrated in Figure 4.

Practical operation

In the operation of my dual purpose fan, referring to Figures 1, 2 and 3, it is shown being used as a directional blast type fan. The air enters the back of the shroud as indicated by the arrows 36 and leaves through the guard 18—20—24 as indicated by the arrows 38. The shroud may be adjusted for throwing the air in either a true horizontal direction (when adjusted as in Figures 1 and 2), upwardly as in Figure 3 or downwardly to discharge the air in the desired direction.

When the fan structure is thus used as a directional blast fan, the combination base and deflector 10 serves as a supporting base with the fan structure supported by the uprights 12 and the connections 14 permit the desired angular adjustment.

When it is desired to use the dual purpose fan disclosed as a floor-type circulator, it may be adjusted as in Figure 4 for support of the shroud 16 by the legs 32. The combination base and deflector 10 is then adjusted to the position illustrated and is supported on the shroud 16 by the uprights 12 to serve as a deflector so that air entering below the lower edge of the shroud, as indicated by the arrows 40, is circulated upwardly through the shroud and then deflected as at 42 by the element 10.

The construction disclosed is comparatively simple yet effective for converting a single fan unit for either type of air pattern referred to, the element 10 thereby serving a double purpose, being a supporting base in Figure 3 and a deflector in Figure 4.

Some changes may be made in the construction and arrangement of the parts of my dual

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purpose fan 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. In a dual purpose fan, a cylindrical shroud, a fan mounted therein for circulating air in a direction axially through said shroud, a combined supporting base and deflector, an upright therefrom for supporting said shroud in position for circulating air substantially horizontally therethrough, said shroud having supporting legs extending from one end thereof to permit the support of said shroud spaced from a floor surface to circulate air upwardly through said shroud, said upright being pivoted to said shroud to permit said combined base and deflector to be swung to a substantially horizontal position above said shroud to radially deflect the air after it is circulated upwardly therethrough by said fan.

2. In a dual purpose fan, a fan unit for circulating air, a substantially imperforate supporting base, an upright from said base for supporting said fan unit in position for circulating air substantially horizontally therethrough, said fan unit having supporting legs extending rigidly therefrom and terminating in a plane at substantially right angles to the axis of the fan of said fan unit to permit the support thereof on a floor surface to circulate air upwardly, said upright being pivoted to said fan unit to permit said base to be swung to a substantially horizontal position above said fan unit to radially deflect the air after it is circulated upwardly by said fan, said base being of sufficient size to substantially span the diameter of the fan blades of said fan unit.

3. In a dual purpose fan of the character disclosed, a shroud open at both ends, a fan mounted therein for circulating air in one direction through said shroud, one means for supporting said shroud comprising a supporting base, said shroud being pivotally mounted thereon for circulating air substantially horizontally therethrough, a second means extending from one of the open ends of said shroud for supporting it with said open end spaced from a floor surface to permit circulation of air upwardly through said shroud, said base being adjustable to a substantially horizontal position above said shroud to deflect the air radially outward from said shroud after it is circulated upwardly therethrough by said fan.

4. In a dual purpose fan of the character disclosed, a cylindrical shroud having open ends, a guard at one end of said shroud, a fan in said shroud for circulating air in one direction axially therethrough, a motor on which said fan is mounted, a supporting base, an upright from said base to which said shroud is pivotally mounted for circulating air substantially horizontally, means for supporting said shroud with

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its axis vertical and its lower open end spaced from a floor surface to circulate air upwardly through said shroud, said upright being pivoted to said shroud to permit said base to be swung to a horizontal position above said shroud to deflect the air circulated upwardly therethrough in radial directions.

5. In a dual purpose fan, an open-ended shroud, a guard at one end of said shroud, a fan in said shroud for circulating air in one direction therethrough, a motor on which said fan is mounted, a second guard supporting said motor in said shroud, a supporting base, means extending from said base on which said shroud is pivotally mounted, means for supporting said shroud with one of its open ends vertically spaced from a floor surface to circulate air upwardly through said shroud, said means being movably connected to said shroud to permit said base to be horizontally positioned above said shroud to deflect the air circulated upwardly therethrough.

6. A dual purpose fan comprising a cylindrical shroud, a guard at one end of said shroud, a fan in said shroud for circulating air in one direction axially therethrough, a motor on which said fan is mounted, a wire guard supporting said motor in said shroud, a base, an upright from said base to which said shroud is pivoted for circulating air substantially horizontally, means for supporting said shroud with its axis vertical to circulate air upwardly through said shroud, said upright permitting said base to be swung to a horizontal position above said shroud to serve as an air deflector.

7. A dual purpose fan comprising a plate element, a cylindrical shroud mounted thereon, a fan in said shroud for circulating air substantially horizontally through the shroud, means for supporting said shroud spaced from a floor surface and with its axis vertical to permit the fan to circulate air upwardly therethrough, said plate element being pivotally mounted relative to said shroud to assume a position in a horizontal plane above the shroud to radially deflect such air when the shroud is in said last mentioned position.

8. A dual purpose fan comprising a base, a cylindrical shroud pivotally mounted thereon with its axis substantially horizontal, a fan in said shroud for circulating air through the shroud, means independent of said base for supporting said shroud spaced from a floor surface and with its axis vertical to permit the fan to circulate air upwardly therethrough, said base being pivotally movable to assume a position in a horizontal plane above the shroud to radially deflect such air.

MAX E. LAUTNER.

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