

Feb. 25, 1958

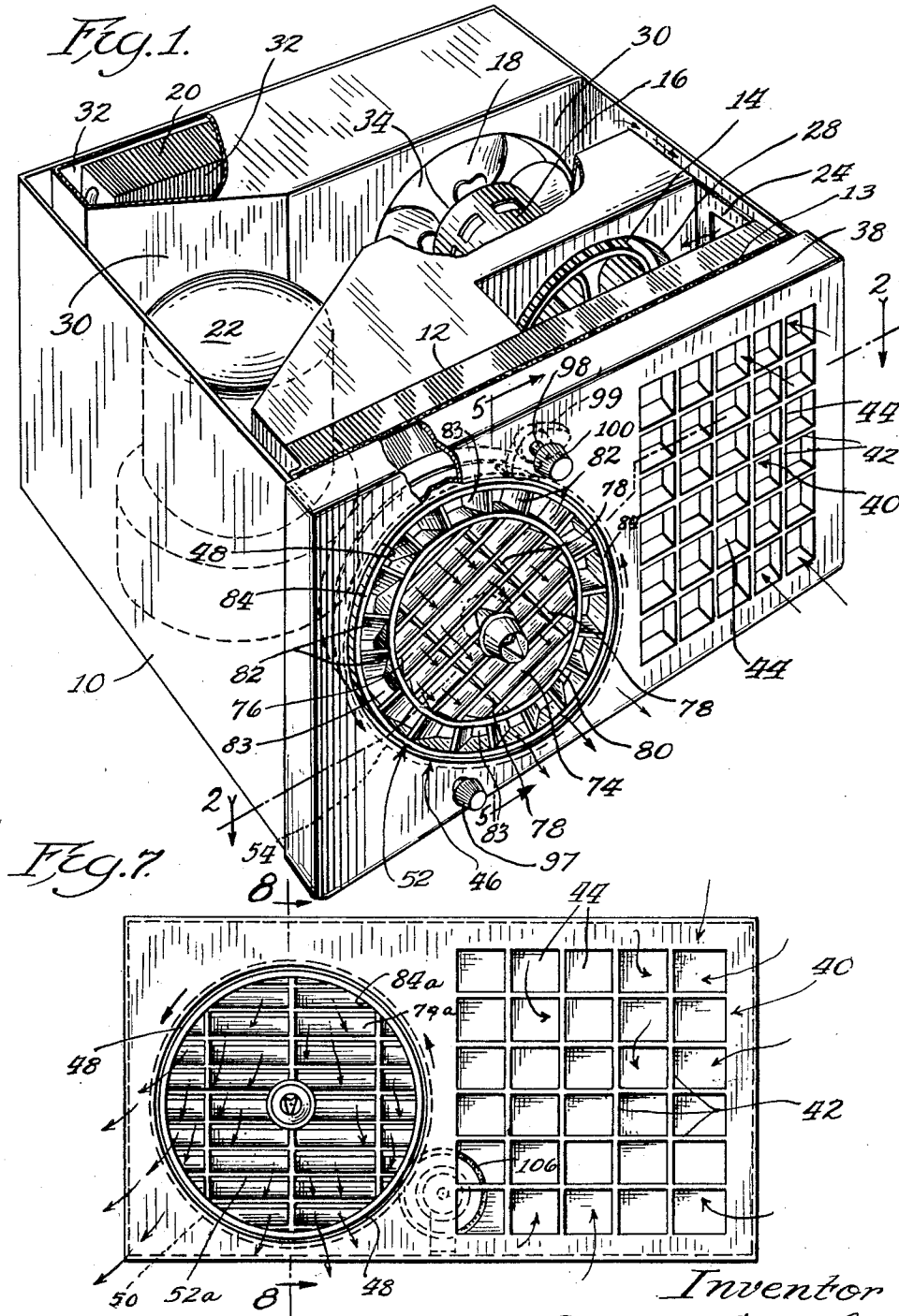
A. S. ZUCKER

2,824,429

MEANS FOR CIRCULATING AND DISTRIBUTING AIR

Filed June 8, 1955

5 Sheets-Sheet 1



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Fig. 2.

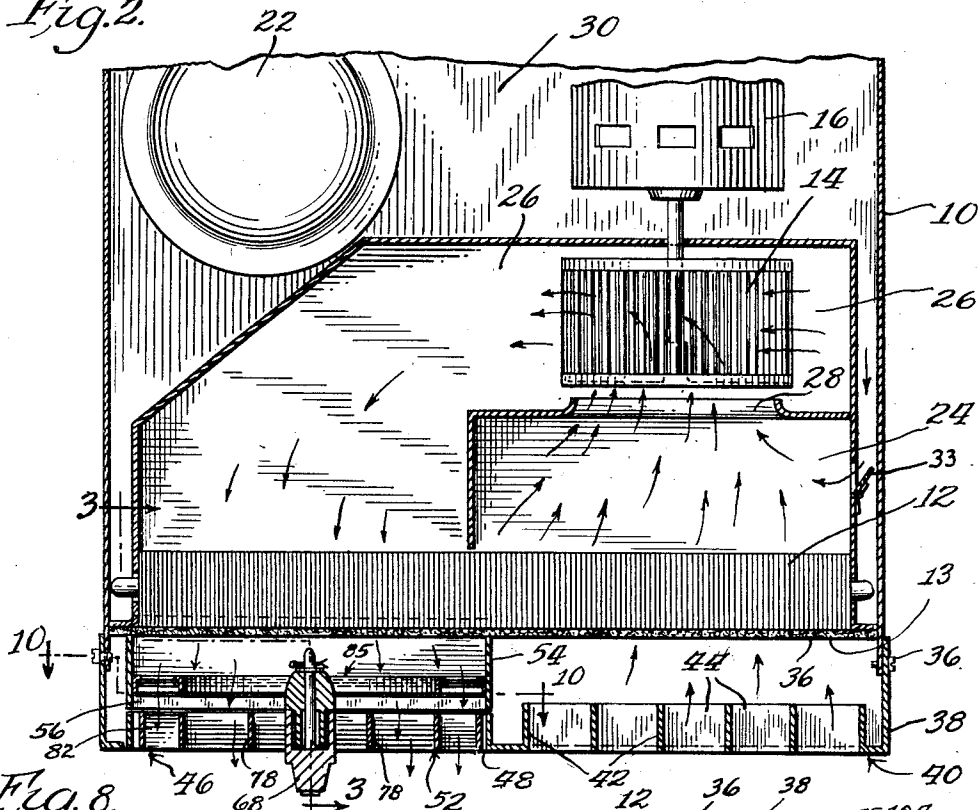
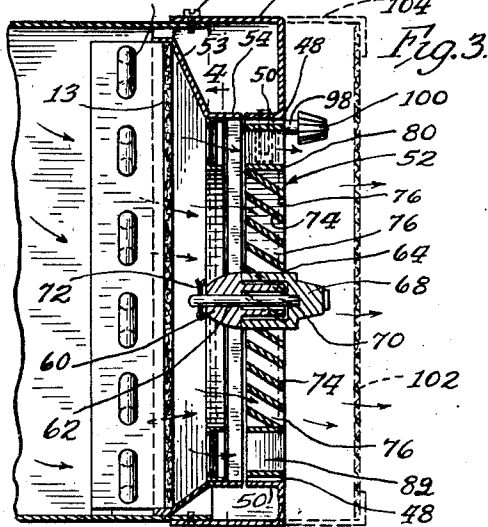
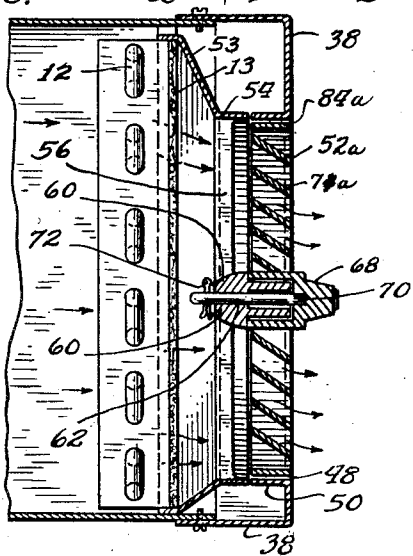


Fig. 8.



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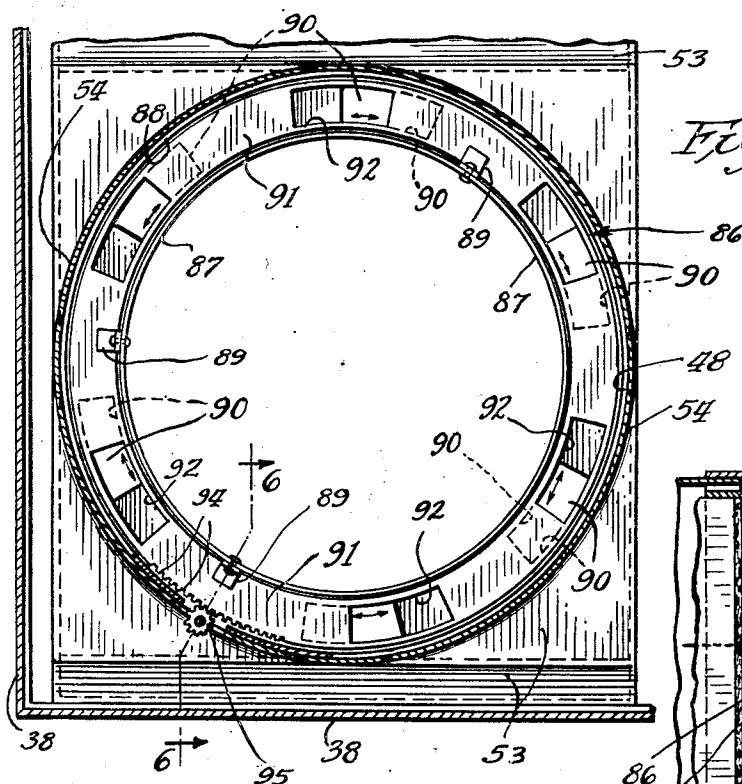


Fig. 4.

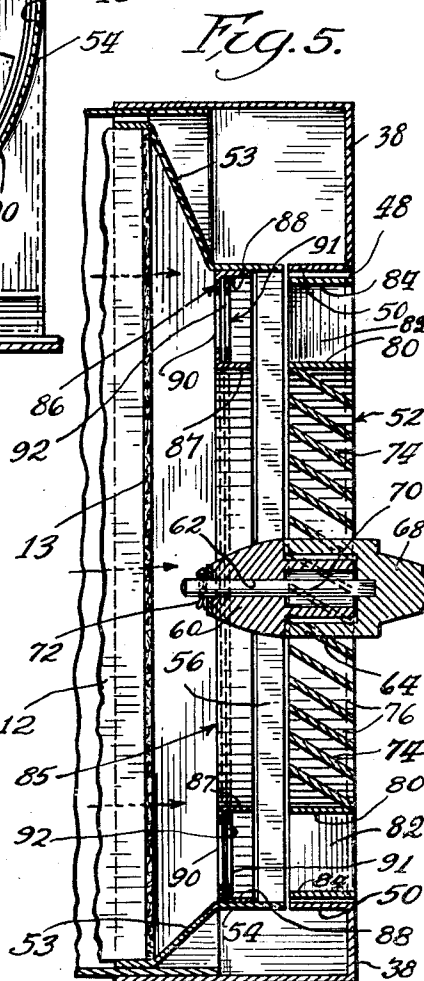


Fig. 5.

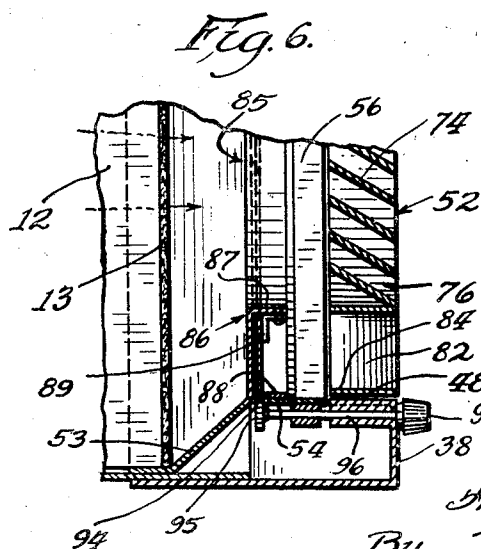


Fig. 6.

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Fig. 9.

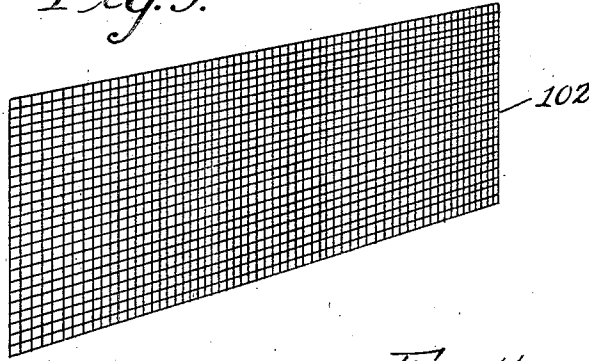


Fig. 11.

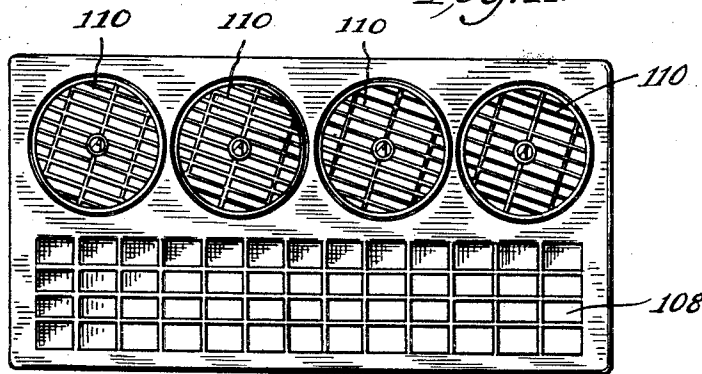
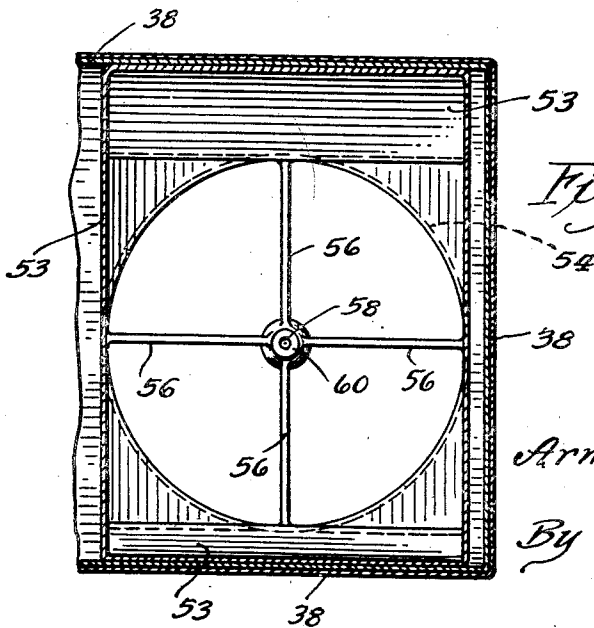


Fig. 10.



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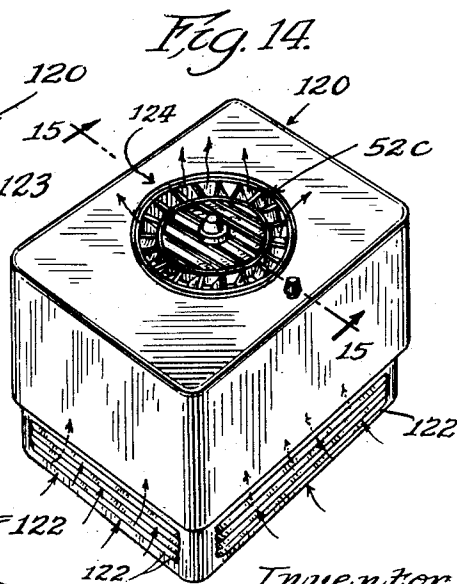
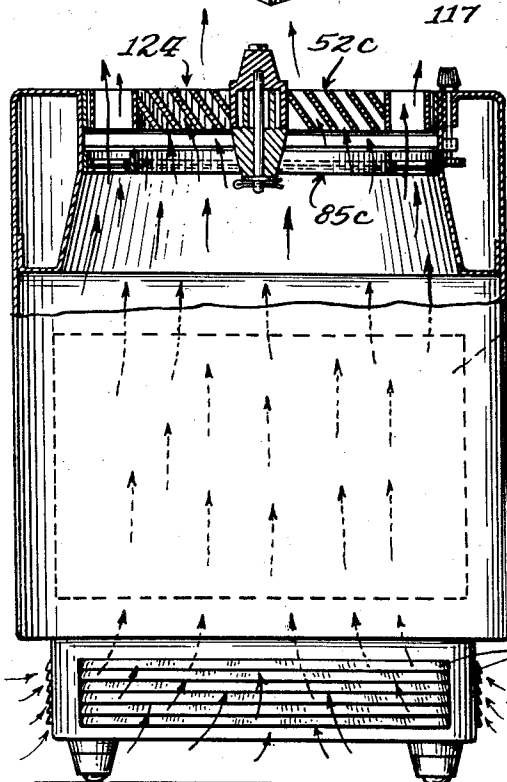
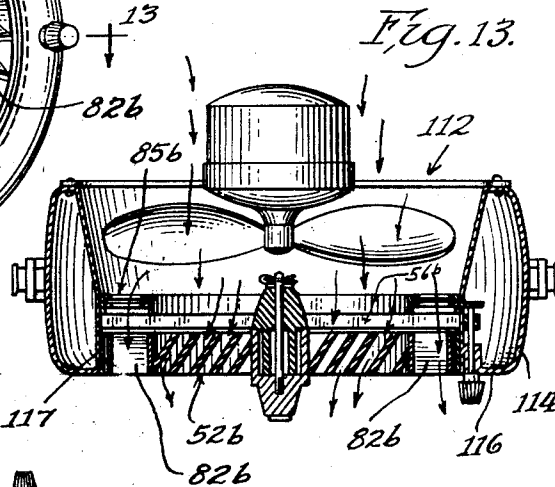
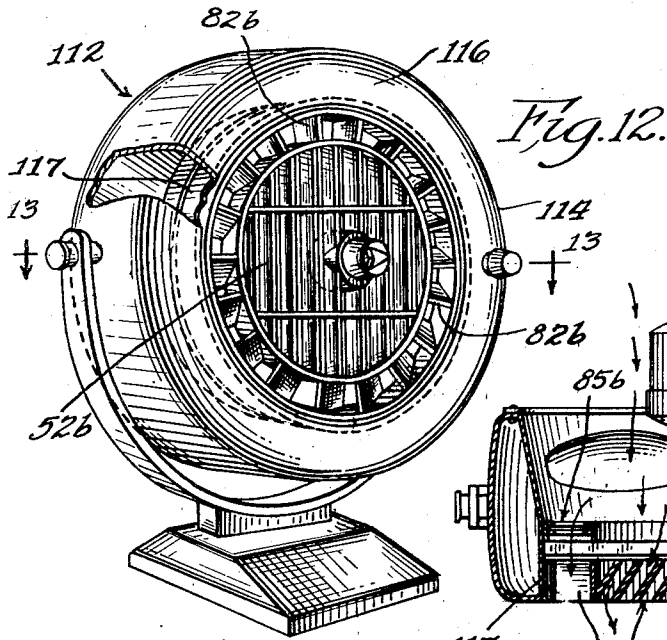
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5 Sheets-Sheet 5



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MEANS FOR CIRCULATING AND DISTRIBUTING AIR

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Application June 8, 1955, Serial No. 514,090

20 Claims. (Cl. 62—129)

This invention relates to means for circulating and distributing air and has particular application for use in connection with air conditioners, fans, ventilators, heating units and the like.

One of the objects of this invention is to provide new and improved means for distributing and circulating the air in a room or the like which permits the discharged air to penetrate into every corner of the space or room to be conditioned by constantly changing the direction of the flow of the discharged air.

Another object is to provide a structure of the foregoing character which includes a rotatable member having impeller means wherein the discharged air impinges against the impeller means to drive the rotatable member through which the air is discharged and whereby the speed of rotation of said rotatable member is controlled by the volume of air impinging against the impeller means and whereby the rotation of said rotatable member is arrested by cutting off the flow of air to said impeller means.

Another object of this invention is to provide rotatable means including spaced directional louvers, the rotational speed of which may be controlled and which discharges the conditioned air in a rotating air pattern, the arc of the air pattern for the discharged air varying with the speed of the rotor.

Another object of this invention is to provide a rotor operated by the circulating air in an air conditioner which sets up a dynamic rotating air pattern to enable the conditioned air to be quickly distributed over the entire room area in a minimum of time and with maximum efficiency.

In room air conditioning units now on the market and more particularly with those of the window type, stationary discharge louvers have been provided which direct the air discharged from the air conditioning unit in certain directions dependent upon the stationary position of the louver. While these louvers are adjustable so that they could be changed to control the direction of the flow of the discharged air, they are stationary in their adjusted position. However, with this invention there is provided means for constantly rotating said directional louvers so that the air is constantly being discharged in a changing air pattern with each revolution of the louver. There is also provided means whereby the rate of rotation or speed of rotation may be readily controlled and by thus controlling the speed of rotation of the rotatable louver the air discharge pattern is varied, for example, by rotating the louver at a reduced speed the arc of the pattern of the discharged air is enlarged and by increasing the speed of rotation of the rotor the arc of the air pattern is reduced so that when the rotor is rotating at its maximum speed the air will be delivered in a substantially horizontal or straight out position from the rotor.

Another object of this invention is to provide a rotor member for use in connection with air conditioning units,

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fans, ventilators, heaters and the like in which air is cooled, heated or circulated and distributed in a constantly changing air pattern to thereby more effectively distribute the air into the room and increase the effective capacity of the air treating unit.

Other objects will become apparent as this description progresses.

In the drawings:

Fig. 1 is a perspective view of a window air conditioning unit employing the present invention.

Fig. 2 is a cross-sectional plan or top view of a portion of Fig. 1 taken on lines 2—2 of Fig. 1.

Fig. 3 is a cross-sectional side or elevational view taken on lines 3—3 of Fig. 2.

Fig. 4 is a cross-sectional front view taken on lines 4—4 of Fig. 3.

Fig. 5 is a cross-sectional view taken on lines 5—5 of Fig. 1.

Fig. 6 is a cross-sectional view taken on lines 6—6 of Fig. 4.

Fig. 7 is a front view of an air conditioning unit showing a modified form of construction.

Fig. 8 is a side cross-sectional view taken on lines 8—8 of Fig. 7.

Fig. 9 is a perspective view of the screen that may be positioned in front of the front panel of the air conditioner.

Fig. 10 is a rear view taken on lines 10—10 of Fig. 2.

Fig. 11 is another modification of a front panel of an air conditioner showing a plurality of rotatable elements.

Fig. 12 is a perspective view showing the application of this invention to an electric fan.

Fig. 13 is a cross-sectional view taken on lines 13—13 of Fig. 12.

Fig. 14 is a perspective view showing the application of this invention to a heating unit, and

Fig. 15 is a view partly in cross-section taken on lines 15—15 of Fig. 14.

Reference will be made first to the window air conditioning unit. The window air conditioning unit is of conventional construction except for the front portion and the attendant parts thereof which form the present invention. The conventional window air conditioning unit as shown in Figs. 1 and 2 comprises a casing or housing 10 having an evaporator 12, positioned adjacent the front of the unit with an air filter 13 positioned forwardly thereof. The centrifugal blower wheel 14 positioned rearwardly of the evaporator is operated by a motor 16 which on the opposite side thereof operates a condenser fan blade 18. The conventional refrigerant condenser 20 and hermetically sealed motor compressor unit 22 are suitably connected with the evaporator 12 as is well understood in the art of air conditioners.

The interior of the housing 10 is divided into several compartments by suitable partition means and there is shown a compartment 24 positioned directly behind the evaporator 12, which compartment extends substantially across half of the length of the evaporator 12. The compartment 24 receives the room air, as will be subsequently explained. The compartment 24 communicates with another compartment 26 through an annular orifice 28. The centrifugal blower wheel 14 is positioned in compartment 26 and is in alignment with orifice 28. Compartment 26, as best shown in Fig. 2, extends rearwardly from directly behind the evaporator 12 and laterally behind compartment 24. Compartment 30 is positioned rearwardly of compartment 26 and houses the compressor unit 22 and motor 16. Compartment 32 positioned rearwardly of compartment 30 houses the condenser 20 as well as the condenser fan

blade 18 and communicates with compartment 30 through an enlarged orifice 34. Compartment 32 also communicates with the atmosphere exteriorly of the room so that outside fresh air passes in through and around the condenser and compressor unit 22 and is expelled exteriorly of the air conditioner through the rotation of fan blade 18 while some of said fresh air is introduced into the unit to mix with the air circulating in the room. The admission of fresh air into the room air is controlled by a suitable damper 33. Likewise the unit is provided with means for disposing of the condensate as is well understood in the art.

Suitably secured as by fastening means 36 to the front of housing 10 forwardly of the filter 13 is a panel or front covering generally indicated by the numeral 38. The section of the panel in alignment with compartment 24 and indicated by the numeral 40 is the inlet through which room air is drawn into the air conditioning unit and said section is composed of a grillework indicated by the numeral 42 which has spaced openings 44. The grille 42 extends approximately one-half or more across the front panel 38. The section of the panel in alignment with the front of compartment 26 and indicated generally by the numeral 46 is the air outlet or discharge end of the air conditioning unit, that is, the air that is refrigerated or cooled is recirculated and passes from the unit into the room through said outlet. The outlet area of the air conditioner is substantially the size as the inlet area.

In the outlet section of the front panel there is provided a large circular opening 48 having an annular peripheral flange 50. Rotatably supported in said annular opening as will be presently described is a rotor member or wheel generally indicated at 52. Positioned and suitably secured between the front panel 38 and the filter screen 13 on the outlet side is a hood or cowl generally indicated by the numeral 53 which terminates in an annular collar generally indicated by the numeral 54 which is in alignment with the flange 50 and which supports therewithin a cross shaped spider member 56 having a central opening 58 which fixedly supports a bushing 60. The bushing has an axial opening 62 and a peripheral raceway 64.

The rotor member 52 has a central opening 66 in which is fixedly secured a hub 68 which fits on the raceway 64 of the bushing 60. The hub of the rotor has fixedly secured thereto a pin 70 which extends through the axial opening 62 of the bushing 60 and is secured against removal by a washer and cotter pin 72. The rotor 52 is thus freely rotatable on its support. It will be understood that any other form of support for said rotor may be provided.

The rotor 52 is provided with a plurality of angularly inclined louvers or vanes indicated by the numeral 74 extending across the face of the rotor which are in parallel relationship and are inclined relative to the plane of the rotor. Spaced longitudinal passageways 76 are provided between the louvers for passage of the refrigerated or ventilated air from the air conditioner into the room. Reinforcement ribs 78 intersect and connect the louvers 74. Connected to the louvers 74 is an annular rim or ring 80 and spacedly connected thereto by a series of spaced impeller blades 82 is an outer annular rim or ring 84. The spaced impeller blades 82 are annularly arranged and they are inclined at a predetermined angle with respect to the plane of the face of the rotor so that when the current of air forced against the blades from the interior of the unit impinges against said blades it will effect rotation of the rotor 52. Spaces 83 are provided between the impeller blades 82.

The room air enters the air conditioner through the grille 42, is filtered by the air filter 13, passes over the evaporator 12 into compartment 24 through opening 28 and driven by fan 14 through compartment 26 forward-

ly over evaporator 12. The refrigerated air passes through filter 13. Certain currents of the outwardly forced air will impinge against the impeller blades 82 to rotate the rotor 52 and will be expelled through the openings 83 between the blades as same is rotating. Most of the outwardly forced air will be discharged through the longitudinal passageways 76 between the louvers 74. The louvers 74 of the rotor while rotating constantly change the direction of the flow of the air in all directions; consequently instead of getting a constant stream of air in one direction as is common with the stationary outlets, the pressure of the air being discharged through the rotor is reduced and dispersed over a wider range. This results in a more effective and even distribution of air. Both the angularly inclined impeller blades 82 and angularly inclined louvers 74 deflect the air emerging from the rotor 52 in streams inclined to the face plane of the rotor and same is constantly changing as the rotor is rotating. Thus as the rotor is constantly rotating the air is expelled in a continuous fashion in all directions in a swirling action causing a more or less continuous turbulence of air which activates the air in the room to a much greater degree than provided with stationary or single directional outlets, now common in the art.

As shown particularly in Figs. 4 and 5, means are provided for controlling the speed of rotation of the rotor 52 or for arresting rotation thereof. Mounted in the annular collar 54 of the cowl 53 rearwardly of the spider 56, is a circular shutter generally designated by the numeral 85 which is of a size corresponding to the space between the inner and outer rings 80 and 84 of the rotor 52. The circular shutter comprises a stationary vertical flat ring 86 having spaced inner and outer flanges 87 and 88. The outer flange 88 is secured to the collar 54. The face of the stationary ring or shutter 86 is provided with a plurality of arcuate shaped slots or openings 90. Mounted to be rotated with respect to said stationary ring is a rotatable shutter formed of a vertical flat ring 91 which fits between the flanges 87 and 88 with the face of the rotatable shutter positioned against the rear of the face of the stationary shutter 86. Angle brackets 89 are secured by rivets to the inner flange 87 to retain the rotatable shutter in close and sliding contact with stationary shutter 86. The face of the rotatable shutter 91 is provided with a plurality of spaced arcuate shaped slots or openings 92 of the same size and shape as the arcuate openings 90 of the stationary shutter 86.

A portion of the outer flange 88 of the stationary shutter 86 is cut away as indicated at 93 and the periphery of the rotatable shutter 91 adjacent said opening is provided with a toothed edge 94 (Figs. 4 and 6) which is in engagement with a pinion 95 mounted on a spindle 96 supported on the front panel 38. The spindle has a knob 97. By rotating the knob 97 the openings 92 in the rotatable shutter 91 are brought into and out of registry with the openings 90 in the stationary shutter 86 so that the stationary shutter openings 90 may be fully open, or partially open or completely closed, thus controlling the amount of air directed against the impeller blades 82 of the rotor 52. When the openings 90 are fully open the maximum amount of air will pass through the openings to impinge against the impeller blades to rotate the rotor at its maximum speed and as the size of the openings 90 is reduced the speed of the rotor will be reduced, dependent upon the amount of air allowed to pass through said openings. With the openings closed no air will pass through the shutter to impinge against the impeller blades consequently rotation of the rotor is arrested. Thus the speed of rotation of the rotor 52 may be progressively increased or decreased as desired by a turning of the knob 97 or same may be entirely arrested. The rotor 52 when arrested may be positioned in any desired variant of 360°

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to direct the air passing through the openings 76 of the rotor 52.

By controlling the speed of the rotor member 52 various effects are secured. With the shutter openings 90 partially open the rotor member 52 will rotate at a slow rate providing a dynamic rotating air pattern in which the discharged air moves outwardly as though radiating from the apex of a cone and is distributed over a large arc quickly penetrating into every corner of the space to be conditioned. As the shutter openings 90 are progressively increased the rotation of the rotor will be increased reducing the arc of the rotating air pattern. With the shutter openings fully open the rotor turns at a fast rate of speed which causes the rotor to deliver the air in a substantially horizontal or straight out direction. By closing the shutter openings 90 the rotation of the rotor is arrested and the rotor may be stopped or positioned so that the air can be directed statically in any desired angular direction.

As shown particularly in Figs. 1 and 3, other means are provided for arresting rotation of the rotor 52 if desired. Such simple means comprise a spindle member 93 which is secured on the front panel 38 as shown and said spindle supports a cam member 99 fixedly secured thereto, which cam member is adapted when operated by the knob 100 to engage the outer rim 84 of the rotor 52 to arrest its rotation. With the cam member rotated out of engagement with the rotor 52 the rotor will be free to rotate but when the cam member 99 is in engagement with said rotor the rotation of said rotor is arrested in any desired variant of 360° of said rotation.

It will be seen that the hood or cowl 53 previously described which supports the spider 56 and shutter 85 has inwardly inclined walls on the top, bottom and sides thereof which terminate in the forwardly extending annular neck 54 which is positioned adjacent the intumed flange 50 of the panel 38. Thus it will be seen that the air from inside the air conditioning unit is directed inwardly and to a more restricted path to strike against the impeller blades 82.

It will be understood that various operating switches and the like are mounted on the front panel 38 for operating the unit, as is well understood in the art, however they are not illustrated in the drawings for they are of conventional construction.

If it is desired to mask the front of the panel 38 to hide particularly the rotor member, a wire screen or mesh 102 shown in Fig. 9 may be positioned forwardly of the front panel as shown in Fig. 3. The screen may be suitably supported and secured to the housing as shown by a framework construction 104 and the screen is provided with suitable openings (not shown) so that the various switches and operating parts on the panel are readily accessible.

The construction shown in Figs. 7 and 8 is substantially like that previously described except that the rotor 52a is power driven instead of by air currents. The rotor 52a has louvers 74a similar to louvers 74 previously described which are connected by a rim or ring 84a. In this construction the impeller blades 82 are omitted. A rotor or other means connected to and driven by any positive rotating member in the air conditioning unit drives a wheel 106 which is in engagement with the ring 84a of the rotor 52a to drive the rotor. Rotation of the rotor may be arrested by disengaging the wheel 106 from the rotor or by stopping the motor. The air currents which are distributed exteriorly of the air conditioner are similar to that described in connection with Figs. 1 to 6 inclusive.

In Fig. 11 there is shown a modified front panel. In the construction shown the bottom rectangular grille section 108 forms the inlet of the room air conditioner through which the room air is introduced into the unit and a plurality of rotors generally indicated by the numeral 110 shown above the grille operate to discharge the air from the unit. The plurality of rotors may be of

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the construction of the rotor shown in Figs. 1 to 6, whereby the rotor is driven by air currents or the rotors may be of the construction shown in Figs. 7 and 8, wherein they are power driven. If desired the rotors in this construction may be connected by suitable means so that some of the rotors are simultaneously rotating in one direction while others are simultaneously rotating in opposite directions. This will further cause the expelled air to be activated and to be simultaneously directed in various directions.

With the construction shown by this invention it will be seen that a marked advance is provided over the art in that the conditioned air is expelled into the room in a manner so that it is changing directions as it is expelled, thus activating the air in the room to become more uniformly distributed in the room than heretofore as where the outlet end had stationary grilles or the like.

Figs. 12 and 13 show the application of this invention in connection with an electric fan generally indicated at 112. The fan housing 114 is provided with an annular front ring 116 having an annular inwardly directed flange 117 within which is mounted the rotor member generally designated by the numeral 52b. The rotor 52b is similar to rotor 52 and has impeller blades 82b similar to impeller blades 82. The rotor 52b is rotatably supported on a spider 56b which is fixedly secured to the flange 117 and is similar to the structure previously described. Also mounted within flange 117 is a shutter 85b similar to shutter 85 previously described. Means similar to those previously described may be used for operating the shutter. While the foregoing is described in connection with an electric fan it will be understood that this invention is likewise applicable to ventilating fans, evaporative coolers, heaters, and the like.

Figs. 14 and 15 show the application of this invention to convector and radiant heaters. The heater generally designated by the numeral 120 has a heating element 123 and is provided with an inlet grille 112 adjacent the lower end of the heater. The outlet or discharge end of the heater is at the top thereof and is designated by the numeral 124. The rotor unit generally designated by the numeral 52c and the shutter 85c are positioned and secured across the outlet end of the heater unit and are similar to the rotor and shutter 52 and 85 previously described. The room air will enter through the inlet grille 112 and is heated within the unit. The convection current or convectional updraft will rotate the rotor unit 52c by impinging against the impeller blades of the rotor and the heated air will thus be discharged into the room. The rotation of the rotor is controlled through the shutter unit 85c similarly to that previously described.

It will be understood that various changes and modifications may be made from the foregoing without departing from the spirit and scope of the appended claims.

I claim:

1. In means for controlling the distribution of air from an air conditioning apparatus, said means including a rotor member secured to said air conditioning apparatus, said rotor having a plurality of spaced directional louvers and spaced impeller blades, said impeller blades being so constructed and arranged that the air from said air conditioning apparatus when impinging against said impeller blades will rotate said rotor member and permit the discharge of the conditioned air through said spaced louvers, a controllable damper member positioned behind said impeller blades, said damper member comprising a pair of plates each having spaced openings and means for rotating said plates with respect to each other to adjust said openings to control the volume of air impinging against said impeller blades to vary the speed of rotation of said rotor member.

2. In means for distributing conditioned air from an air conditioning unit, said means including a rotatable member having a plurality of spaced directional louvers

and impeller blades, means for controlling the volume of air impinging against said impeller blades so that the volume of said air controls the speed of rotation of said rotatable member, said conditioned air adapted to be discharged through said spaced directional louvers as said rotatable member is rotating.

3. In an air conditioning unit of the character described, comprising a housing having an air inlet and an air outlet, said air outlet including a rotatable member, a refrigerating apparatus mounted within said housing and including motor driven fan means arranged to draw air into said housing through said air inlet whereby same is cooled in said housing by said refrigerating apparatus, said fan means arranged to force said cooled air out of said housing through said air outlet with said forced out air rotating said rotatable member, a controllable damper member positioned between said fan and said rotatable member and comprising a pair of plates each having spaced openings, and means for rotating said plates with respect to each other to control the volume of air impinging against said rotatable member to vary the speed of rotation of said rotatable member.

4. In an air conditioner, the combination of a housing, a refrigerating unit within said housing for cooling the air passing through said unit and including motor driven fan means, an air inlet and an air outlet in the front of said housing, said air outlet including a rotatable member having discharge openings, said motor driven fan means arranged to draw room air into said housing and to force said air when cooled out through said rotatable member with said forced air simultaneously rotating said rotatable member, a controllable damper member positioned between said rotatable member and said fan means for controlling the volume of air from said fan means impinging against said rotatable member to vary the speed of rotation of said rotatable member.

5. In an air circulating unit of the character described having an electrically operated fan, an air outlet for passage of air from said unit, said air outlet having a rotor, said rotor having a plurality of spaced directional louvers and impeller blades circumferentially positioned with respect to said louvers, said rotor positioned forwardly of said fan and rotatably driven by the air from said fan impinging against said impeller blades, an adjustable shutter positioned forwardly of said fan and adjacent said impeller blades to control the volume of air allowed to impinge against said impeller blades and thereby control the speed of rotation of said rotor.

6. In an air conditioner, the combination of a housing, a refrigerating unit within said housing for cooling the air passing through said unit and including a motor driven fan means, an air inlet section and a separate air outlet section both in the front of said housing, and positioned side by side, said air outlet section including a rotatable member having directional louvers and impeller blades, said motor driven fan means arranged to draw room air into said housing through said front air inlet section and to force said air when cooled out against said impeller blades and through said rotatable member with the forced air striking the impeller blades causing rotation of said rotatable member, and means between said fan means and said impeller blades for controlling the volume of air impinging against said impeller blades to control the speed of rotation of said rotatable member.

7. In a window air conditioner comprising a front panel having an air inlet for receiving the room air and an air outlet for discharge of conditioned air, said air outlet including a rotor member having a plurality of spaced air passages and spaced impeller means positioned circumferentially about said air passages and adapted when impinged by the conditioned air to cause rotation of said rotor and permit passage of conditioned air through said air passages, and a damper member positioned behind said impeller means comprising a station-

ary flat ring having spaced openings and a rotatable ring having openings and means for rotating said rotatable ring with respect to said stationary ring for controlling the volume of air impinging against said impeller means to vary the speed of rotation of said rotor member.

8. In an air conditioner of the character described having an air inlet for passage of air from the room into said air conditioner and an air outlet for passage of conditioned air from said air conditioner into said room, said air outlet having a rotor, said rotor having means impinged by the air from said air conditioner to cause said rotor to operate, said rotor having air discharge openings whereby the air from said conditioner is expelled into the room, and a manually controlled shutter positioned behind said air engaging means for controlling the passage of the volume of air impinging against said air engaging means to thereby control the speed of rotation of said rotor.

9. In combination with electrically operated air circulating means, a rotatable member having a plurality of spaced directional louvers and impeller means, said rotatable member positioned forwardly of said air circulating means and rotatably driven by the air from said circulating means impinging against said impeller means, controllable means positioned between said air circulating means and said impeller means for controlling the volume of air impinging against said impeller means thereby controlling the speed of rotation of said rotatable member and controllably varying the pattern of the air discharged through said directional louvers of said rotatable member.

10. In combination with a window air conditioning unit having a refrigerating apparatus and electrically operated air circulating means, a rotatable member having a plurality of spaced directional louvers and impeller means, said rotatable member positioned forwardly of said air circulating means and rotatably driven by the air from said air circulating means impinging against said impeller means, controllable means positioned between said air circulating means and said impeller means for controlling the volume of air impinging against said impeller means thereby controlling the speed of rotation of said rotatable member and controllably varying the pattern of the air discharged through said spaced directional louvers of said rotatable member.

11. In a window air conditioner of the character described comprising a front panel having an air inlet section into said conditioner, electrically operated fan means behind said air inlet section for drawing room air in through said air inlet section, said air inlet section positioned adjacent one side of said front panel, an air outlet section positioned adjacent the opposite side of said front panel, said air outlet section having a rotor member, means on said rotor member adapted to be impinged by the air discharged from said air conditioner fan to cause said rotor to rotate, said rotor having spaced directional vanes for directing the air into the room from said air conditioner as said rotor member is rotating, and damper means behind said rotor member for controlling the volume of air impinging against said rotor member to vary the speed of rotation of said rotor member.

12. In a window air conditioner of the character described comprising a front panel having an air inlet section into said conditioner, electrically operated fan means positioned behind said air inlet section for drawing room air in through said air inlet section, said air inlet section positioned adjacent one side of said unit, an air outlet section positioned adjacent the opposite side of said front panel, said air outlet section having a rotor member, means on said rotor member adapted to be impinged by the air discharged from said electrically operated fan means to cause said rotor member to rotate, said rotor member having spaced directional vanes for directing the air into the room from said air conditioner as said rotor member is rotating, and manually controlled means for arresting rotation of said rotor member in any desired

variant of 360° so as to direct the air through said directional vanes as said rotor member is arrested.

13. In a window air conditioner of the character described comprising a front panel having an air inlet section into said conditioner, electrically operated fan means positioned behind said air inlet section for drawing room air in through said air inlet section, said air inlet section positioned adjacent one side of said unit, an air outlet section positioned adjacent the opposite side of said front panel, said air outlet section having a rotor member, means on said rotor member adapted to be impinged by the air discharged from said electrically operated fan means to cause said rotor member to rotate, said rotor member having spaced directional vanes for directing the air into the room from said air conditioner as said rotor member is rotating, manually controlled means for arresting rotation of said rotor member in any desired variant of 360° so as to direct the air through said directional vanes as said rotor member is arrested, and means positioned forwardly of said rotor member for masking said rotor member.

14. In a room air conditioner, the combination of a housing, a refrigerating unit within said housing for cooling the air passing through said unit and including a motor driven centrifugal blower wheel, said housing having an air inlet and an air outlet in communication with the room, a rotatable member having directional louvers positioned adjacent said air outlet, means for continuously rotating said rotatable member during operation of said air conditioner, said centrifugal blower wheel arranged to draw room air into said housing through said air inlet and to force said air when cooled against said rotating rotatable member and to discharge said cooled air through said directional louvers, and manually controlled means engaging said rotatable member for arresting rotation of said rotatable member in any desired variant of 360° so as to direct the air through said directional louvers as said rotatable member is arrested.

15. In a room air conditioner, the combination of a housing having a front portion in communication with the room, a refrigerating unit within said housing for cooling the air passing through said unit and including a motor driven centrifugal blower wheel, said front portion having an air inlet and an air outlet in side by side relationship, a rotatable member having directional louvers positioned adjacent said air outlet, means for continuously rotating said rotatable member during operation of said air conditioner, said centrifugal blower wheel arranged to draw room air into said housing through said air inlet and to force said air when cooled against said rotating rotatable member and to discharge said cooled air through said directional louvers, manually controlled means for arresting rotation of said rotatable member in any desired variant of 360° so as to direct the air through directional louvers as said rotatable member is arrested, and means positioned forwardly of said rotatable member for masking said rotatable member.

16. In an air conditioner, the combination of a housing, a refrigerating unit within said housing for cooling the air passing through said unit and including a motor driven fan means, said housing having an air inlet and an air outlet, a rotatable member positioned in said housing adjacent said air outlet and forwardly of said refrigerating unit, said rotatable member having directional louvers and impeller blades, said motor driven fan means arranged to draw room air into said housing through said air inlet and to force said air when cooled out against said impeller blades causing rotation of said rotatable member and the discharge of the cooled air through said directional louvers, and manually controlled means for arresting rotation of said rotatable member in any desired variant of 360° so as to direct the air through said directional louvers as said rotatable member is arrested.

17. In an air conditioner, the combination of a housing, a refrigerating unit within said housing for cooling the

air passing through said unit and including a motor driven fan means, said housing having an air inlet and an air outlet, a rotatable member positioned in said housing adjacent said air outlet and forwardly of said refrigerating unit, said rotatable member having directional louvers and impeller blades, said motor driven fan means arranged to draw room air into said housing through said air inlet and to force said air when cooled out against said impeller blades causing rotation of said rotatable member and the discharge of the cooled air through said directional louvers, manually controlled means for arresting rotation of said rotatable member in any desired variant of 360° so as to direct the air through said directional louvers as said rotatable member is arrested, and means positioned forwardly of said rotatable member for masking said rotatable member.

18. In a room window air conditioner of the character described, the combination of a housing having a front panel with an air inlet section and an air outlet section adjacent each other side by side, a refrigerating unit within said housing for cooling the air passing through said unit and including a motor driven fan means positioned rearwardly of said air inlet section, a rotatable member positioned adjacent said air outlet section and forwardly of said refrigerating unit, said rotatable member having directional louvers and impeller blades, said motor driven fan means arranged to draw room air into said housing through said air inlet section and to force said air when cooled out against said impeller blades to rotate said rotatable member and also to discharge said cooled air through said directional louvers into the room, and manually operated means positioned on said front panel for engaging said rotatable member to arrest rotation of said rotatable member to then direct the cooled air through said directional louvers as said rotatable member is arrested.

19. In a room window air conditioner of the character described, the combination of a housing having a front panel with an air inlet section and an air outlet section adjacent each other side by side, a refrigerating unit within said housing for cooling the air passing through said unit and including a motor driven fan means positioned rearwardly of said air inlet section, a rotatable member positioned adjacent said air outlet section and forwardly of said refrigerating unit, said rotatable member having directional louvers and impeller blades, said motor driven fan means arranged to draw room air into said housing through said air inlet section and to force said air when cooled out against said impeller blades to rotate said rotatable member and also to discharge said cooled air through said directional louvers into the room, manually operated means positioned on said front panel for engaging said rotatable member to arrest rotation of said rotatable member to then direct the cooled air through said directional louvers as said rotatable member is arrested, and means positioned forwardly of said rotatable member for masking said rotatable member.

20. In a room air conditioner, the combination of a housing having a front panel, a refrigerating unit within said housing for cooling the air passing through said unit and including air circulating means, said housing having an air inlet and said panel having an air outlet to the room, a rotatable member having directional louvers positioned adjacent said air outlet, means for continuously rotating said rotatable member during operation of said air conditioner, said air circulating means arranged to draw room air into said housing through said air inlet and to force said air when cooled against said rotating rotatable member to discharge said cooled air in a continuous circulating air pattern, and means for arresting rotation of said rotatable member in any desired variant of 360° so as to direct the air through the directional louvers as said rotatable member is arrested.

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