

SPECIFICATION

Dehumidifier

5 This invention relates to a dehumidifying apparatus, but is more specifically concerned with a dehumidifier which can serve both as a dehumidifier and a drier.

10 A conventional dehumidifier comprises a refrigeration cycle mechanism in which the air introduced into the mechanism is cooled and dehumidified by an evaporator and, rewarmed by a condenser before being discharged. A conventional dehumidifier of this type is suitable for dehumidifying air within a closed space such as the air within a room, but is unsuitable for drying, for example, a wet hair, wet shoes and bed clothes.

20 A drier for drying such substances is available on the market. But, such a drier suffers from the disadvantage that the water evaporated during the drying operation is dispersed into the ambient atmosphere, leading to an increased humidity within the room. The difficulty mentioned is serious particularly where the drier is used within a room in a highly humid season or in a highly humid district. Of course, the use of humid air for the drying operation results in an unsatisfactory drying efficiency.

30 The above-mentioned undesirability can be overcome by using both a dehumidifier and a drier separately. But, the use of these two devices is troublesome, and requires a large amount of space and is uneconomical.

The present invention seeks to provide a dehumidifier capable of performing both a dehumidifying function and a drying function.

40 According to the present invention, there is provided a dehumidifier, comprising a main body, a dehumidifying mechanism housed in the main body, and an air heating and blowing mechanism, herein termed a drying mechanism, housed in the main body; the dehumidifying mechanism including an evaporator, a condenser at a predetermined distance downstream from the evaporator, a first blower disposed downstream of the condenser, and a compressor disposed beneath and to one side of the evaporator and the condenser; and the drying mechanism including a second blower for blowing air which has passed through the dehumidifying mechanism, a heating element disposed on the discharge side of the second blower, and a hose removably connected to an output duct of the second blower.

55 This invention will now be described further by way of example, with reference to the accompanying drawings, in which:

60 *Figure 1* is a perspective view in a disassembled stage of a dehumidifier according to one embodiment of this invention;

65 *Figure 2* is a perspective view showing a cabinet into which the dehumidifier shown in

Fig. 1 may be fitted;

Figure 3 is a partial perspective view of a hose connected to the dehumidifier of *Fig. 1*;

70 *Figure 4* is a perspective view showing a part of the back of the cabinet shown in *Fig. 2*;

Figure 5 shows the electric circuit used in the dehumidifier of *Fig. 1*;

75 *Figure 6* shows various uses of the dehumidifier of the present invention;

Figure 7 is a graph showing the variation in time of the amount of evaporated water in the case of drying bed clothes by using a dehumidifier of this invention compared with a conventional drier, and

80 *Figure 8* is a graph showing the variation in time of the humidity increase in a room for the case of drying bed clothes by using a dehumidifier of this invention compared with a conventional drier.

85 As shown in *Figs. 1* and *2*, a main body 1 of a dehumidifier consists of cabinet members (a) (b) and a base plate 2. *Fig. 2* shows that the base plate 2 is provided with castors 3 at its four corners so as to enable the dehumidifier to be moved easily to a desired place. A dehumidifying mechanism 4 and an air blowing and heating mechanism or simply a drying mechanism 5 are housed in the main body 1 as seen from *Fig. 1*.

95 The dehumidifying mechanism 4 includes an evaporator 8 and a condenser 9 each disposed on a drain pan 6 engaged with a drain pan supporting shelf 7 fixed to the inner walls of the cabinet members (a) and (b). It is seen that the evaporator 8 and the condenser 9 extend upwards parallel to one another, with a small clearance provided therebetween. *Fig. 2* shows that a compressor 10 is supported on the base plate 2 with legs provided at its bottom. The evaporator 8, condenser 9, compressor 10 and a refrigerant pipe (not shown) form a refrigeration system.

110 A propeller fan 12 is mounted on a shaft 11a of a motor 11 so as to provide a first blower 13. As seen from *Fig. 1*, the first blower 13 is supported by bracked 14a and 14b which are mounted on raised table 6a formed on the drain pan 6. The first blower 13 is positioned to face the condenser 9.

115 The front face of the cabinet member (a) is provided with an air inlet 15 at the portion facing the evaporator 8. Further, a filter 16 for dehumidification is inserted between the air inlet 15 and the evaporator 8 through a slit formed in the upper surface of the cabinet member (a). On the other hand, the upper surface of the cabinet member (b) (*Fig. 2*) is provided with an air outlet 17. When acting as a dehumidifier, the first blower 13 serves to introduce the ambient air into the main body 1 through the air inlet 15 and the filter 16 and to discharge the air from the main body 1 through the air outlet 17. Naturally, the air introduced into the main body 1 flows

through the evaporator 8 and the condenser 9 and, then, is discharged. In other words, an air flow represented by the arrow 18 is formed by the operation of the first blower

13.

A pair of legs 19 are fixed to the bottom plate of the drain pan 6 serving to receive drain water which has been condensed by the cooling function of the evaporator 8. As seen from Fig. 1, a drain tank support shelf 20 of channel section is pivoted at its upper end on the legs 19 by a pair of supporting pins 21. Further, one end of the support shelf 20 is supported by a spring 22 extending down from the drain pan 6. A microswitch (not shown) is provided below the spring-supported portion of the support shelf 20.

A drain tank 23 having a handgrip 23a rests on the support shelf 20. The upper face of the drain tank 23 is provided with a drain guide hole 24a and an air vent 24b. The drain guide hole 24a is positioned to communicate with an exhaust hole (not shown) bored through the bottom plate of the drain pan 6. The drain guide hole 24a also serves to provide an outlet port through water accumulating in the drain tank 23 can be discharged. On the other hand, the air vent 24b serves to facilitate the drain inflow into the drain tank.

Reference numeral 25 denotes a drain tank cover pivoted by a hinge (not shown) on the front face of the cabinet member (a) below the air inlet 15. The drain tank cover 25 is positioned to face the hand grip 23a of the drain tank 23 and the surface of the drain tank cover 25 is provided with a pattern of vertical stripes resembling the pattern of the air inlet 15.

The drying mechanism 5 includes a second blower 30 consisting of a motor 27, a blower case 28 and a sirocco fan 29. The motor 27 is mounted to one side of a vertical plate 26 which is fixed by screw engagement to a boss projecting inwardly from the inner surface of the cabinet member (a). A rotary shaft 27a of the motor 27 extends through a hole (not shown) bored through the base plate 26, and the sirocco fan 29 housed in the blower case 28 disposed on the opposite side of the base plate 26 engaged with the rotary shaft 27a so as to provide the second blower 30. The second blower 30 serves to suck the air around the motor 27 and discharge it through an air output duct 28a of blower case 28, thereby forming a drying air flow 31.

A first heater 32a and a second heater 32b differing from each other in heating capacity are housed in the duct 28a. Further, a hose 33 as shown in Fig. 3 is removably connected to the end of the duct 28a. The hose 33 is flexible and extendable. The hose 33 is normally in its shortest state, and can be extended when in use.

The drying mechanism 5 described above can be disposed in the free space left in the

main body 1 and the mounting of the dehumidifying mechanism 4, in the embodiment in the space above the compressor 10.

The cabinet member (b) is provided with a stow away compartment 34 at the portion facing the drying mechanism 5 as seen from Figs. 2 and 4. A door or cover 35 is removably mounted to close the opening of the compartment 34. Specifically, the cover 35 is provided with projections 35a on its edges and the compartment 34 with stepped portions 34a at its edges. These projections 35a are engageable with the stepped portions 34a so as to retain the cover 35 over the compartment 34. Provided in the compartment 34 are a hose container portion 36 serving to house the hose 33, a lead container portion 37 serving to house an electric lead (not shown), and a mat container portion 38 serving to house, for example, a mat (not shown) used for drying bedclothes. The hose container portion 36 is circular in cross section and is slightly larger in diameter than the hose 33. Further, the vertical length of the hose container portion 36 is slightly greater than the length of the hose 33 when not in an extended condition. The hose container portion 36 is separated from the cord container portion 37 by a supporting plate 39. As shown in Fig. 4, a guide projection 39a is mounted to the upper surface of the supporting plate 39, and one end portion of the hose 33 is provided with an inwards projection 33a shown in Fig. 3, which is engageable with the guide projection 39a. As apparent from the foregoing description, the hose 33 is vertically disposed on the supporting plate 39 when not in use.

A lead exit hole 40 and a lead exit recess 41 are provided at the bottom portion of the compartment 34 so as to permit an electric lead extending from within the main body 1 to be connected to a power point. As seen from Fig. 4, the lead exit recess 41 permits the electric cord to be connected to the external power source without removing the cover 35. The lead is housed in the cord container portion 37 in a bundled state when not in use. The underside of the supporting plate 39 is provided at its periphery with a pair of lead engaging projections 42. The bundled lead is supported by these projections 42 when housed in the container portion 37 so as to permit the cover 35 to be mounted on the compartment 34 without difficulty.

A pair of venting holes 43a are formed in the wall defining the container portion 37 so as to release the heat generated by the compressor 10. As seen from Fig. 4, these holes 43a are positioned behind the projections 42 and are thus, concealed from view by the projections 42 even when the cover 35 has been removed. In other words, the holes 43a do not impair the appearance of the device. The cover 35 is also provided with venting

holes 43b.

A filter insertion hole 44 is formed in the upper portion of the side wall of the mat container portion 38, and a filter guiding channel 45 is mounted on the inner wall of the cabinet member (b). A filter 46 for the drying operation is inserted through the filter insertion hole 44 and guided by the filter guiding channel 45 so as to be disposed between the base plate 26 and the drain pan 6 for filtering the air which is to be fed to the second blower 30.

The control mechanism of the dehumidifier shown in the drawings includes an operation board 51 mounted on the upper wall of the cabinet member (a) and a control box 52 mounted below the table 6a of the drain 6. The operation board 51 consists of a selector switch 47, a time switch 48, an operation display lamp 50a and a drain display lamp 50b. As shown in Fig. 1, a switch-mounting plate 49 having the selector switch 47 and the time switch 48 mounted thereto is mounted on the upper wall of the cabinet member (a). Operation shafts 47a and 48a of these switches 47 and 48, respectively, extend upward to reach the upper surface of the cabinet member (a) and knobs 47b and 48b are mounted on the ends of these operation shafts 47a and 48a respectively. The displays lamps 50a and 50b are provided to one side of these switches 47 and 48. The control box 52 disposed below the table 6a of the drain pan 6 serves to make electric connections between the selector switch 47, time switch 48, motors 11, 27 heaters 32a, 32b, compressor 10 etc.

Furthermore, a pair of holes 54 are formed in the upper portions of the side walls of the cabinet members (a) and (b). Each of the holes 54 extends over the cabinet members (a) and (b). A pair of handgrips 53 is inserted into the holes 54. It is also seen that a hose connecting hole 55 is provided below one of the holes 54. The hose connecting hole 55 is positioned to correspond to the conduit 28a.

Fig. 5 shows the electric circuit used in the dehumidifier of the construction described above. It is seen that the selector switch 47 comprises a 56-57 circuit, a 58-59 circuit, a 60-61 circuit, a 62-63 circuit, a 64-65 circuit, and a 66-67 circuit. The knob 47b is operated to enable the selector switch 47 to connect selectively each of these circuits to an AC source 68, thereby permitting six types of switching operation consisting of "stop", "warm air flow", "dehumidified warm air flow", "dehumidified air flow", "room dehumidification" and "air flow". For performing these six types of operation, the circuits included in the selector switch 47 are closed as marked in the drawing. For example, the selector switch 47 is operated to close the 56-57 circuit and the 66-67 circuit for performing the operation of "room dehumidifica-

tion".

It is seen that a motor 10a of the compressor 10 and a motor 11 of the first blower 13 are connected to the AC source 68 through the 56-57 circuit and the 58-59 circuit. Also, the time switch 48 consists of three time contacts 69a, 69b, 69c, and a motor 48c. The knob 48b is operated to enable the time switch 48 to set the operation time of the dehumidifier and to permit continuous operation of the dehumidifier selectively. One end of the motor 48c of the time switch 48 is connected to one end of the AC source 68 through the 56-57 circuit, while the other end of the motor 48c is connected to the other end of the AC source 68 through the time contact 69a. One end of the time contact 69b is connected to the motors 10a and 11, while the other end is connected to the AC source 68 through the 66-67 circuit. Further, one end of the time contact 69c is connected to one end of the AC source 68 through the 56-57 circuit, with the other end thereof being connected to one end of the motor 27 of the second blower 30 as well as to one end of each of the first and second heaters 32a and 32b. It is seen that the other end of the first heater 32a is connected to the other end of the AC source 68 through the 62-63 circuit. Likewise, the other end of the second heater 32b is connected to the other end of the AC source 68 through the 64-65 circuit.

Assuming that the selector switch 47 has been set for the operation of, for example, "dehumidified warm air flow". In this case, the 56-57 circuit, 58-59 circuit, 60-61 circuit and 64-65 circuit are rendered conductive as shown in Fig. 5. Electric power is supplied from the AC source 68 to the motors 10a and 11 through the 56-57 circuit and 58-59 circuit so as to actuate the compressor 10 and the first blower 13. As a result, the refrigeration system is operated. Specifically, the compressor 10 compresses the refrigerant and sends forth the compressed refrigerant into the condenser 9 so as to liquefy the refrigerant. Latent heat is released when the refrigerant is liquefied. The liquefied refrigerant is introduced into an expansion valve (not shown) and, then, into the evaporator 8 so as to be evaporated. In this evaporation step, the refrigerant absorbs latent heat. Finally, the evaporated refrigerant is sucked into the compressor 10 so as to repeat the refrigeration cycle described above.

The first blower 13 is also operated together with the operation of the compressor 10 as mentioned above. Specifically, the operation of the first blower 13 causes the open air to be introduced into the main body 1 through the air inlet 15 and to flow along the path represented by arrow 18. In passing through the evaporator 8, the air is cooled by removal of the heat required for evaporating the refrigerant passing through the evaporator.

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8. This results in that the moisture contained in the air separating out in the form of water droplets. The air cooled and dehumidified in the evaporator 8 passes through the condenser 9. In passing through the condenser 9, the air is heated to room temperature by the latent heat released when the refrigerant is condensed in the condenser 9. In summary, dehumidified air at room temperature is blown out through the air outlet 17. It follows that the air within the room is dehumidified in this way.

In performing the dehumidification operation, the time switch 48 is set at a desired operation time. When the time switch 48 is set, the time contacts 69a, 69b and 69c are closed. It follows that the motor 48c of the time switch 48 is connected to the AC source 68 and, thus, is rotated. Also, the motor 27 of the second blower 30 is rotated because the 60-61 circuit is rendered conductive during the operation of "dehumidified warm air flow" as shown in Fig. 5. Likewise, the second heater 32b works because the 64-65 circuit is also rendered conductive in this step.

As a result, part of the dehumidified air coming from the condenser 9 is caused to flow through the drying air path 31. In passing through the drying air path 31, the dehumidified air is heated by the second heater 32b. It follows that a dry warm air is blown off from the discharge duct 28a. The dry warm air thus blown out can be used for various purposes by connecting the hose 33 to the duct 28a. It should be noted that the motors 11 and 27 of the first and second blowers and the compressor 10 are disposed in the drying air passageway 31 upstream of the first and second heaters 32a and 32b. Consequently, these motors and the compressor are effectively cooled by the dehumidified air flowing through the drying air passageway 31. Likewise, the dehumidified air is pre-heated before reaching the second heater 32b by the heat discharged from these motors and the compressor, resulting in that the dehumidified air is heated economically.

As described previously, the moisture contained in the air is separated in the form of water droplets by the operation of the refrigeration system. The water thus separated is stored in the drain tank 23, the tank base 20 is pivoted around the pair of supporting pins 21 so as to stretch the spring 22. When the amount of the collected water has reached a predetermined level, the plane of the tank base 20 depresses the microswitch (not shown) provided below the spring-supported portion of the tank base 20, whereupon the compressor 10 ceases to operate. Further, the drain display lamp 50b is turned on and an alarm buzzer (not shown) is sounded. At this time, it is necessary to take out the drain tank 23 by opening the drain tank cover 25 positioned below the air inlet 15 for pouring out

the water collected in the drain tank. The support half 20 lifts off the microswitch upon removal of the drain tank 23, resulting in that the drain display lamp 50b is turned off and the alarm buzzer ceases to ring. As soon as the water has been poured out, the drain tank 23 is again positioned on the support shelf 20 and the compressor 10 is operated again.

When the operation time set by the time switch 48 has expired, the time contacts 69a to 69c open so as to break the electric circuits including the motor 27 of the second blower 30 and the second heater 32b. In this case, however, the compressor 10 and the first blower 13 continue to operate as seen from Fig. 5. Thus, dehumidified air continues to be blown out from the air outlet 17.

If the selector switch 47 has been set for the "warm air flow" operation and the time switch 48 for a desired operation time or for continuous operation, then the 56-57 circuit, 60-61 circuit and 62-63 circuit are rendered conductive so as to actuate the motor 27 of the second blower 30 and the first heater 32a. As a result, the air introduced into the main body 1 through the air inlet 15 by the operation of the second blower 30 is heated by the first heater 32a and blown out through the duct 28a as warm air. The warm air can be used for drying wet materials by connecting the hose 33 to the duct 28a.

The first heater 32a has a larger heating capacity than the second heater 32b. Specifically, heater having a smaller heating capacity is actuated during the operation of "dehumidified warm air flow". On the other hand, the heater having the larger capacity is actuated during the "warm air flow" operation. This particular arrangement permits effectively utilizing the amount of current flowing through the entire apparatus to fall within a predetermined current capacity of the apparatus.

If the selector switch 47 has been set for the "dehumidified air flow" operation and the time switch 48 for a desired operation time or for continuous operation, then the 56-57 circuit, 60-61 circuit, and 66-67 circuit are rendered conductive so as to actuate the compressor 10, the first blower 13 and the second blower 30. As a result, the dehumidified air is blown out from both the air outlet 17 and the duct 28a. The air coming from the duct 28a can be used for drying wet materials.

If the selector switch 47 has been set for the "room dehumidification" operation and the time switch 48 for a desired operation time or for continuous operation, then the 56-57 circuit and 66-67 circuit are rendered conductive as shown in Fig. 5 so as to actuate the compressor 10 and the first blower 13. Naturally, the dehumidified air is blown out from the air outlet 17.

Finally, the dehumidifier of this invention is also capable of performing the "air flow"

operation. In this case, the selector switch 47 is set to render the 56-57 circuit and 60-61 circuit conductive and the time switch 48 is set at a desired operation time or continuous operation so as to actuate only the motor 27 of the second blower 30 as seen from Fig. 5. Naturally, the air of room temperature is blown out through the blow-duct 28a.

As described in detail, the dehumidifier can be used for various purposes. Fig. 6 shows that the dehumidifier can be used for drying wet shoes wet hair and bed clothes by setting the selector switch knob 47b for the "warm air flow" operation. For allowing the dehumidifier to perform such a drying function, it is of course necessary to connect the particular attachment to the end of the hose 33. Where the selector switch knob 47b has been set for the operation of "dehumidified warm air flow", it is possible to dry bed clothes by connecting a mat for the bed clothes drying to the end of the hose 33. It is also possible to dry wet diapers by connecting the particular attachment to the end of the hose 33. Further, clothing housed in a cabinet can be dried by disposing the dehumidifier in the cabinet.

Where the selector switch knob 47b has been set for the "dehumidified air flow" operation, wet shoes can be dried by connecting the particular attachment to the end of the hose 33. Likewise, the interior of the closet can be dried by connecting the end of the blow-off hose 33 to an opening formed in the shield plate of the closet. For the case of "room dehumidification" operation, the interior of a room can be dehumidified. Further, the "air flow" operation is effective for, for example, cooling the bed clothes which were dried previously by dehumidified warm air. In this case, it is preferred to connect a mat for the bed clothes drying to the end of the hose 33.

It is important to note that a plurality of different types of operation can be employed in combination, if necessary, for drying wet shoes, bed clothes, etc. In addition, the castors 3 mounted to the base plate 2 of the main body 1 enable the dehumidifier to be moved easily to any desired place.

In the embodiment described above, the dehumidifier comprises a filter 16 for the dehumidification operation and a filter 46 for the drying operation. It is preferred to use a filter having finer meshes for the filter 46, so as to remove the dust passing through the filter 16. In this case, the dust can be prevented from being deposited on the heater and, thus, from being ignited by the heat of the heater. In this way any fire hazard can be prevented.

In the dehumidifier described above, the motor 27 of the second blower 30 is mounted on the base plate 26. It is important to note that the base plate 26 also acts as a partition

plate of the drying air suction chamber, rendering it possible to simplify the structure of the drying mechanism and to facilitate the assembly of the drying mechanism.

Comparative tests were conducted in order to look into the effect of the described dehumidifier. Specifically, bed clothes containing about 650g of water were dried in a room having a floor area of about 10 m² by using a dehumidifier of the invention and a conventional bed clothes drier equipped with a heater of 600 W. The air within the room had a temperature of 20°C and a humidity of 65% at the beginning of the test. The operation of the "dehumidified warm air flow" was employed in the dehumidifier of this invention and the heater actuated in this operation was rated 530 W. Figs. 7 and 8 show the results of the comparative tests. In each of the Figs. 7 and 8, curve (a) represents the case of using the dehumidifier of this invention and curve (b) denotes the case of using the conventional drier. As indicated in the drawings, Fig. 7 shows the change with time in the amount of water evaporated from the bed clothes, with Fig. 8 showing the change with time in the humidity increase within the room. It is clearly seen that the dehumidifier of the invention permits markedly short drying time and markedly suppressing the humidity increase within the room.

The described dehumidifier is capable of performing both dehumidifying function and drying function. Naturally, the dehumidifier can be used for various purposes by suitably combining these two functions. Further, the dehumidifier of this invention can be handled without difficulty. Still further, it is possible to dispose the drying mechanism in the free space left in the main body after the mounting of the dehumidifying mechanism, rendering it possible to minimize the size of the dehumidifier. Needless to say, a small apparatus is advantageous in terms of the space occupied by it in a room.

CLAIMS

1. A dehumidifier, comprising a main body, a dehumidifying mechanism housed in the main body, and an air heating and blowing mechanism, herein termed a drying mechanism, housed in the main body; the dehumidifying mechanism including an evaporator, a condenser at a predetermined distance downstream from the evaporator, a first blower disposed downstream of the condenser and a compressor disposed beneath and to one side of the evaporator and the condenser; and the drying mechanism including a second blower for blowing air which has passed through the dehumidifying mechanism, a heating element disposed on the discharge side of the second blower, and a hose removably connected to an output duct of the second blower.



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operation. In this case, the selector switch 47 is set to render the 56-57 circuit and 60-61 circuit conductive and the time switch 48 is set at a desired operation time or continuous operation so as to actuate only the motor 27 of the second blower 30 as seen from Fig. 5. Naturally, the air of room temperature is blown out through the blow-duct 28a.

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It is important to note that a plurality of different types of operation can be employed in combination, if necessary, for drying wet shoes, bed clothes, etc. In addition, the castors 3 mounted to the base plate 2 of the main body 1 enable the dehumidifier to be moved easily to any desired place.

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plate of the drying air suction chamber, rendering it possible to simplify the structure of the drying mechanism and to facilitate the assembly of the drying mechanism.

Comparative tests were conducted in order to look into the effect of the described dehumidifier. Specifically, bed clothes containing about 650g of water were dried in a room having a floor area of about 10 m² by using a dehumidifier of the invention and a conventional bed clothes drier equipped with a heater of 600 W. The air within the room had a temperature of 20°C and a humidity of 65% at the beginning of the test. The operation of the "dehumidified warm air flow" was employed in the dehumidifier of this invention and the heater actuated in this operation was rated 530 W. Figs. 7 and 8 show the results of the comparative tests. In each of the Figs. 7 and 8, curve (a) represents the case of using the dehumidifier of this invention and curve (b) denotes the case of using the conventional drier. As indicated in the drawings, Fig. 7 shows the change with time in the amount of water evaporated from the bed clothes, with Fig. 8 showing the change with time in the humidity increase within the room. It is clearly seen that the dehumidifier of the invention permits markedly short drying time and markedly suppressing the humidity increase within the room.

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CLAIMS

1. A dehumidifier, comprising a main body, a dehumidifying mechanism housed in the main body, and an air heating and blowing mechanism, herein termed a drying mechanism, housed in the main body; the dehumidifying mechanism including an evaporator, a condenser at a predetermined distance downstream from the evaporator, a first blower disposed downstream of the condenser and a compressor disposed beneath and to one side of the evaporator and the condenser; and the drying mechanism including a second blower for blowing air which has passed through the dehumidifying mechanism, a heating element disposed on the discharge side of the second blower, and a hose removably connected to an output duct of the second blower.



2. A dehumidifier as claimed in Claim 1, wherein the drying mechanism is disposed above the compressor and to one side of the evaporator and condenser.
- 5 3. A dehumidifier as claimed in Claim 1 or 2, wherein the dehumidifying mechanism comprises a first filter for filtering the ambient air introduced into the main body and the drying mechanism comprises a second filter
- 10 for filtering the air coming through the first blower.
4. A dehumidifier as claimed in Claim 3, wherein the mesh of the second filter is smaller than that of the first filter.
- 15 5. A dehumidifier as claimed in any preceding Claim, wherein the heating element consists of a first section and a second section differing from the first section in heating capacity.
- 20 6. A dehumidifier as claimed in Claim 5, wherein the first section is electrically connected to the drying mechanism alone and the second section is electrically connected to both the dehumidifying mechanism and the
- 25 drying mechanism.
7. A dehumidifier as claimed in any preceding Claim, wherein the motors of the first and second blowers and the compressor are disposed in the air passageway formed between the condenser and the heater.
- 30 8. A dehumidifier as claimed in any preceding Claim, wherein a stow away compartment for housing the hose and electric lead during nonoperation of the dehumidifier is
- 35 provided in the main body.
9. A dehumidifier as claimed in any preceding Claim, wherein the main body is provided with an air inlet, and an air outlet for the dehumidifying mechanism in its front wall
- 40 and upper wall, respectively and the output duct is provided in the side wall of the main body.
10. A dehumidifier, substantially as hereinbefore described with reference to and as
- 45 illustrated in the accompanying drawings.