

June 20, 1950

A. L. W. WILLIAMS

2,512,559

COMFORT UNIT

Filed Jan. 18, 1945

2 Sheets-Sheet 1

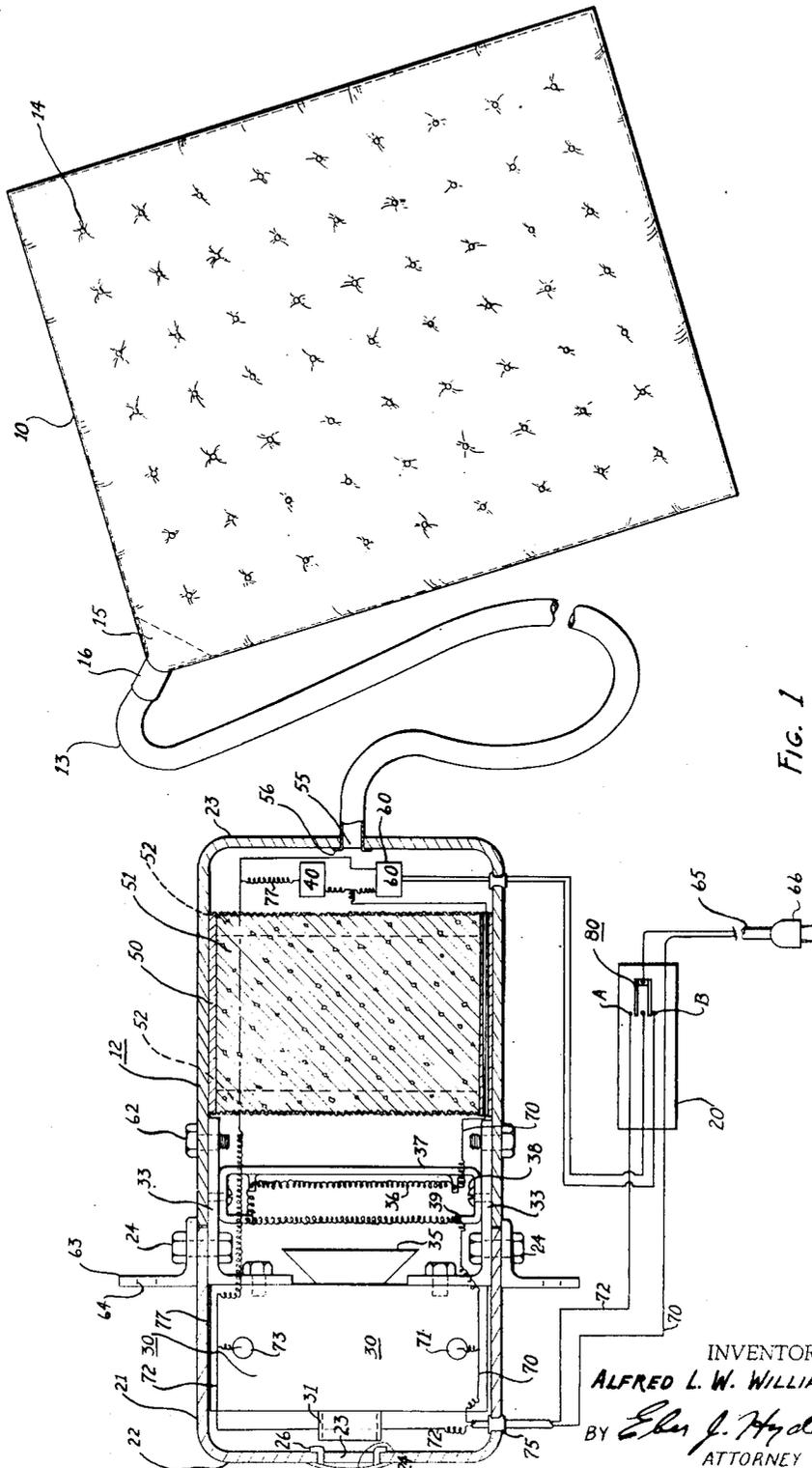


FIG. 1

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2 Sheets-Sheet 2

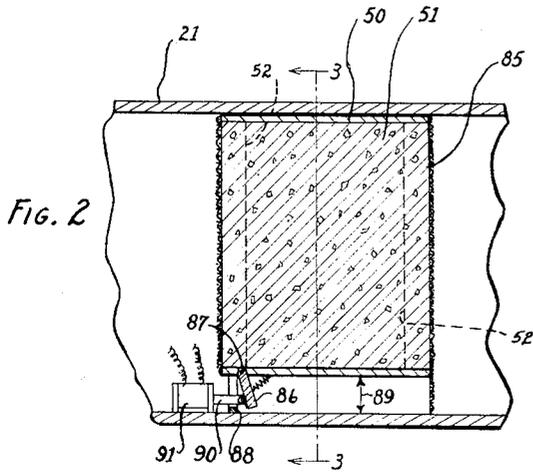


FIG. 2

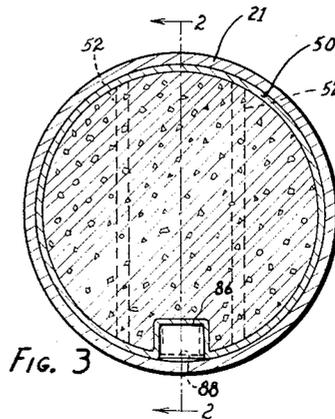


FIG. 3

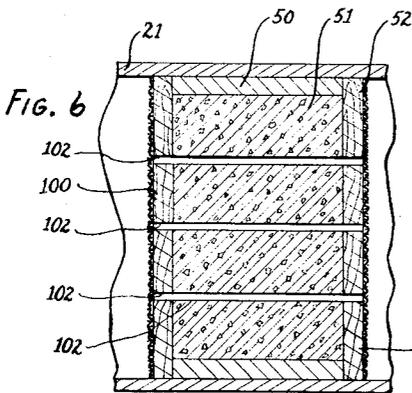


FIG. 6

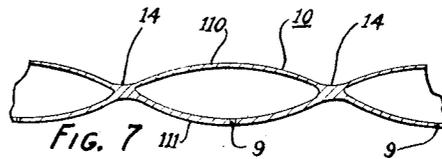


FIG. 7

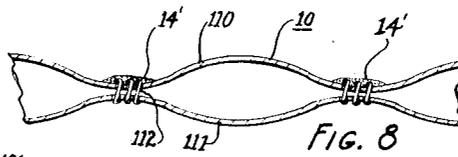


FIG. 8

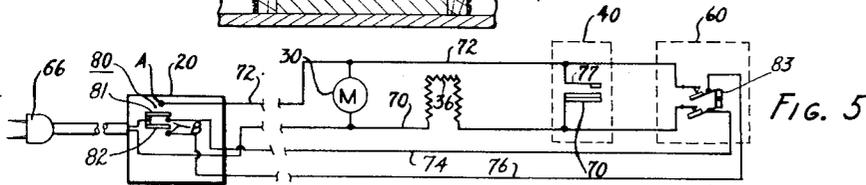


FIG. 5

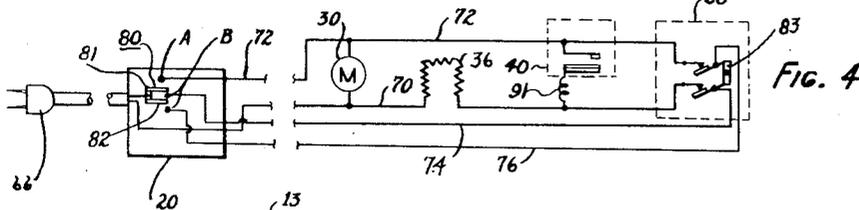


FIG. 4

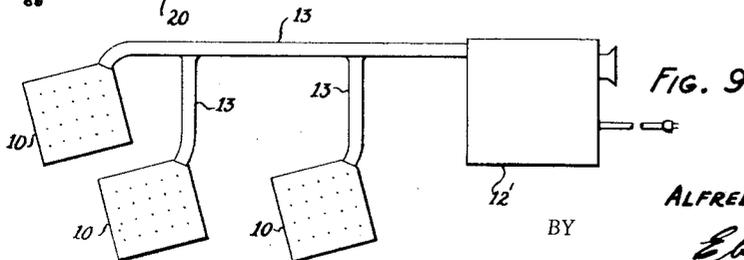


FIG. 9

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# UNITED STATES PATENT OFFICE

2,512,559

## COMFORT UNIT

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Application January 18, 1945, Serial No. 573,427

22 Claims. (Cl. 5-347)

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My invention pertains to a comfort unit and more particularly to a pad or blanket or the like and an air conditioning unit associated therewith for heating a person or for giving the person a feeling of apparent coolness.

An object of my invention is to provide a comfort pad which may be used in bed or the like for heating a person.

Another object of my invention is to provide a comfort pad which may be used in bed or the like for giving a person a feeling of apparent coolness.

A further object of my invention is to provide a comfort pad which will warm a person or which will give the person a feeling of apparent coolness.

It is also an object of my invention to provide a small, compact, quiet, device for heating and/or apparently cooling a person.

Another object of my invention is to utilize the heating unit in a comfort device for maintaining the "cooling unit" in effective operation.

A further object of my invention is to provide a comfort pad for heating and/or apparently cooling a person which is automatically or semi-automatically controlled in accordance with thermostatic and humidity conditions.

Other objects and a fuller understanding of my invention may be had by referring to the following description and drawings, wherein,

Figure 1 illustrates partially schematically and partially in cross-section a comfort unit including a comfort pad and an air conditioning unit.

Figure 2 is a sectional view along lines 2-2 of Figure 3, showing a modified form of a portion of the air conditioning unit which may be used with the comfort pad shown in Figure 1.

Figure 3 is a sectional view along line 3-3 of Figure 2.

Figure 4 is a circuit diagram of the modified form of my invention shown in Figures 2 and 3.

Figure 5 is a circuit diagram of the form of my invention shown in Figure 1.

Figure 6 illustrates a further modified form of my invention.

Figures 7 and 8 are enlarged cross-sectional views of portions of two types of comfort pads which may be used in my invention, and

Figure 9 schematically illustrates a multiple installation utilizing my invention.

With respect to Figure 1, the invention comprises a pad or blanket unit 10 which is connected to an air conditioning unit, indicated generally by the reference character 12, by means of a hollow air impervious tube 13 of suitable length.

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The comfort pad or blanket unit 10 may comprise any material through which a small amount of previously conditioned air may be caused to flow. And it may be positioned near a person so that the conditioned air which flows out of it will come into contact with the body of a person; or the comfort pad 10 may be a mattress or pillow upon which a person may lie.

I prefer to utilize a pad comprised of two sheets of substantially air impervious material; these two sheets being connected together at their edges and at a plurality of spots 14 throughout their area as is shown in Figure 7. One sheet of this pad has a plurality of small holes, such as pin holes 9 in it, through which the conditioned air furnished to the pad passes.

The material from which the pad 10 is made is relatively immaterial so far as my system is concerned. However, I prefer to utilize "Koroseal" sheets, as the material is very pliable, is air impervious except where small pin holes are made, and does not rustle when it is bent and crimped. This lack of rustle is of advantage when my pad is used by a sleeping person as occasional turning and tossing about will not cause noise to wake the person up. Further, when a material such as "Koroseal" is utilized the connections 14 and the edge seal between the upper and lower layers may be made by momentarily applying an amount of heat sufficient to slightly melt the "Koroseal" while simultaneously or immediately thereafter applying pressure while the spot cools to cause the two layers to "weld" together. This may be called "spot welding" as the two sheets become integral at the edges at the spot 14. It is also within the scope of my invention to sew the two layers together either in spots or in long lines, and to seal the needle holes in one of the layers by means of any hardenable sealing material but leaving the needle holes in the other layer for the air to escape as shown by Figure 8.

The hose 13 may be connected to one corner of the pad 10 by any suitable means such as the flat funnel 15 which may be comprised of plastic, metal, or the like, and which extends inside the corner of the pad. One end of the hose 13 may slip in the tube-like portion 16 which is integral with funnel 15 and may be suitably connected thereto by clamping or gluing or by friction. Air which is blown through the hose 13 thereby enters the interior of the pad 10 and due to the slight amount of pressure which is built up by the resistance of the air to passing out through the small pin holes in the pad a slight balloon

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action or puffing of the pad is obtained. The plurality of points 14 where the two sheets comprising the pad are connected together prevent the pad from becoming too thick when it puffs up. The slight pressure, say, for instance, 1 to 2 ounces, is sufficient to cause a flow of air through the numerous pin holes 9 in one side of the pad. Thus if the pad is thrown over a person with the pin-hole side down the air which flows out of the pad comes in contact with the person's body.

The pad 10 may be the size of a blanket so that it can be tucked in around the mattress, or it may comprise the center section of a composite blanket the edges of which are of ordinary blanket material and adapted to tuck in around the mattress. The center section of the composite blanket would comprise the pad portion 10 which thereby is adapted to be positioned over that portion of a bed normally occupied by a person. Also, the pad may be small and adapted for insertion under the covers of a regular bed to that it would not need to be tucked in. It is also within the scope of my invention that the tube 13 may be connected to a mattress and the mattress may be air pervious or may have a plurality of holes by means of which the air could come in contact with the body of a person lying in bed.

Connected to the end of the hose 13 opposite the blanket end is an air conditioning unit indicated generally by the reference character 12, and a switching mechanism indicated generally by the reference character 20 is provided for controlling the air conditioning unit. Details of this switching mechanism 20 will be more fully described later.

The air conditioning unit 12 comprises a hollow tubular member or housing 21 which may be cylindrical or oval or any other shape in cross-section, and the member may be formed of metal, plastic, or spirally wound paper the successive windings of which are connected to each other by glue or plastic material to form a hard, rigid tubular member. This housing 21 has two end portions 22 and 23, integral respectively with two side wall portions. This construction facilitates assembly but it is to be understood that the housing 21 may comprise a single piece tubular member and the end portions 22, 23 may be connected thereto in any suitable manner. Through the end 22 there is an air inlet opening 23 having grill work 24 such as a plurality of finely spaced bars and/or a layer of cloth or the like for preventing the ingress of foreign matter into the housing 21. The grill 24 may be snapped into the housing and maintained there by means of spring lugs 26 or by any other suitable means.

Within the housing 21 and just inside the opening 23 there is positioned an air pump 30 having an opening 31 positioned closely adjacent the air inlet 23 into the housing 21. The air pump 30 is mounted on the wall of the housing 21 by means of angle irons 33 and nut and bolt devices 24, and comprises an electrically driven motor for driving an air impeller which may be any suitable type which delivers on the order of 5 to 10 cubic feet of air a minute at a pressure of about 1 or 2 ounces. The electric motor and pump should be sufficiently quiet in their operation that a person trying to sleep would not be disturbed either by noise or by vibrations. The air pump unit 30 has an outlet 35 from which the air is blown against a heated such as an electrically energized coil of resistance wire 36. The

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resistance wire is mounted on the same angle irons 33 by means of a bar 37 of insulating material; the bar 37 being secured to the angle irons 33 by screws 38 or the like. A convenient method for connecting the resistance wire 36 to insulating member 37 is to thread it through holes 39 through the inwardly turned leg portions thereof.

Within the housing 21 there is a container 50 which may be comprised of light cardboard, heavy paper, metal, plastic or the like. The container is shaped to fit within the housing 21 with its wall portions snugly against the interior surface of the housing, and it has air pervious end closure means such as cloth stretched across the ends and connected to the walls of the container 50. Within the container 50 is a large amount of silica gel 51 or other moisture absorbing means. The cloth end closures prevent this silica gel 51 from spilling out of the container 50 into the housing 21 yet permit the air which flows through the container to pass through the container 50.

The end 23 of the housing 21 has an outlet opening 55 to which is connected one end of the hose 13. Any means may be utilized for connecting the hose at this outlet opening such as a number of spring clips 56. Mounted on the wall of the housing 21 preferably between the silica gel container 50 and the outlet opening 55 is a hygostat 60 and a thermostat 40. These are schematically shown as a wide variety of commercially available hygostats and thermostats may be utilized to control my air conditioning unit.

The angle irons 33 may be utilized for securing the two portions of the housing together. The bolt arrangement 24 secures one end of the housing 21 and a bolt arrangement 62 secures the other end of the housing to the angle iron 33. One or more externally mounted angle irons 63 may be connected to the housing 21 and to the internally mounted angle iron 33 by means of bolts 24, and each angle iron 63 may have a mounting hole 64 through it whereby the conditioning unit may be connected to the frame of a bed. Other suitable arrangements for connecting the air conditioning unit 12 to a bed may be utilized, such as by swinging it in a hammock which is suspended from the bed. This will prevent vibration from being transmitted from the air conditioning unit to the frame of the bed. Also, any of the well known rubber mounting devices may be utilized to reduce the transmission of vibration to a bed.

The control panel 28 may be mounted on the head or on the side of the bed or, if desired, it may be a separate movable switch which may be positioned on a night table beside the bed. Connected to the control panel 28 is an electric cord 65 which may be plugged into any convenient source of electric power, such, for example, as a 110 v. 60 cycle, A. C. supply, by means of a plug 66. One side 70 of the electrical supply line may go to terminal 71 of the air pump unit 30 and the other side 72 of the supply line may be connected to terminal 73 of the air pump unit 30. The wires 70 and 72 extend through the housing 21 by means of a small hole drilled therein and this hole may be sealed by a grommet 75. The electric motor in the air pump unit 30 is in parallel with the electric heater coil 36, and the electrical circuit through the heater coil 36 extends to one of the electrical contacts 76 (see Figure 5) of the thermostat 40. The other

side of the motor circuit is connected to the thermostat 40 by means of wire 77. The thermostat 40 is arranged so that it opens the circuit through the heater 36 when it is satisfied.

The hygostat 60 is in parallel with the thermostat 40 and independently of the thermostat 40 supplies actuating current to the electric motor in the air pump unit 30 for starting the pump; and at the same time completes a circuit through the heater coil 36. These functions are performed when the humidity within the housing 12 is high.

In the winter the air conditioning system operates as follows:

The thermostat 40, which may be manually adjustable over a wider range of temperatures, may be set to any temperature for keeping a person comfortable. The comfort pad 10 is thrown over a person either by itself or with blankets on top of it. The operator throws the switch 80 on the control panel 20 into position A. Power is thus supplied to the electrical driving unit in the air pump 30 which sucks in air through the opening 23 and blows it by means of tube 13 into the comfort pad 10 and from there it flows around a person's body. The thermostat 40, not being satisfied by the cool air which is being taken in at the inlet 23, establishes an electrical circuit through the heater 36 and the air which is blown out of pump outlet 35 is heated. This air passes through the silica gel 51 thereby heating the silica gel, and the warm air passes through tube 13 which may be heat insulated; into the comfort pad 10 from where it passes out of the small pin holes 9 and into contact with the body of the person in bed. Upon the thermostat 40 becoming satisfied by the heat supplied by the coil 36 it opens a circuit which breaks the current supply to the coil 36 thereby shutting off the heat. The air which is blown through the silica gel 51 after the heater has been turned off, is slightly warmed due to the heat that is stored in the silica gel but soon the thermostat will no longer be satisfied and will close the coil energizing circuit thereby supplying current to the heater 36.

While I have shown a heater device which is operated by a make-and-break thermostat it is also to be understood that it is within the scope of my invention to utilize a heater device which does not continually turn on and off but which supplies a relatively constant amount of heat and the thermostat operates to adjust the amount from zero to a large amount. The hygostat 60 is not essential for the winter operation as large amounts of heat may be imparted to the air which is blown around the person, thus making the person feel warm regardless of the moisture content of the air.

It is well known that the comfort of a person depends upon several factors, among them being the temperature of the air, the humidity of the air, and the motion or velocity of the air surrounding the person. Thus, an amount of warm dry air having sufficient velocity will give a person the feeling of apparent coolness if it evaporates moisture from the skin of the person. It is this evaporation which makes the person apparently feel cool. In the winter warm dry air, if it evaporates moisture from the skin of a person, might make that person feel cool whereas warm moist air would make him feel warm. In the device shown in Figure 1 dry air is supplied to the person. However, sufficient heat may be imparted to that air that the dryness thereof

becomes immaterial. The device shown in Figures 2 and 3, which is to be described in detail later, provides for supplying to a person warm air which has not been dehydrated and thus not as much heat need be imparted to the air.

In the summer when the air is warm and its moisture content is high, the device would operate as follows: The silica gel is dry. When the switch blade 80 is in position A the blower 30 is operating. Heater coil 36 is not energized as the temperature of the warm moist incoming air satisfies the thermostat 40 and its contacts are open to break the circuit through the coil. Hygostat 60 is satisfied because the silica gel 51, being unsaturated, maintains the air within the container at a low moisture content. Thus its electrical circuit is broken. The warm moist air is forced through the silica gel container 50 where substantially all of its moisture is removed, and this dry air is blown onto the person in bed thereby making him feel cool due to the evaporation of the body moisture. Sufficient silica gel 51 is in the housing 21 for a number of hours of operation, such, for example, as 10 hours. This means that there must be sufficient silica gel to absorb the moisture from the air which passes through the container in ten hours of operation. Thus the volume of air which is blown about a person should be kept to a minimum. For this reason I provide pin holes only on the bottom layer of the material which comprises the pad 10.

After the device has been in operation all night the moisture which has been absorbed by the silica gel must be driven off in order to prepare the silica gel for the next night's operation. Thus, upon rising in the morning switch blade 80 is thrown into position B, where blade 81 establishes a circuit through wire 74, through switch 83 (when hygostat switch is closed), and through the heater 36. Blade 82 establishes a circuit through wire 76, through switch 83 (when hygostat switch is closed), and through wire 72 to energize the blower 30. The hygostat switch will be closed due to the saturation or near saturation of the silica gel and thus the heater and blower will both be on regardless of the position of the thermostat switch 40, and hot air will be blown through the silica gel 51 thereby taking substantially all of the moisture out of the silica gel. When the silica gel 51 has become sufficiently dry or re-activated the air which is blown about the hygostat 60 will become dry and the hygostat will open the circuit B through the motor and through the heater thereby automatically shutting both of them off.

If the moisture content of the air which has been passing through the air conditioner during a night operation is not high enough to saturate the silica gel, then throwing switch blade 80 into position B will not cause the motor 30 and the heater 36 to be energized. The next night when the person wishes to retire, he throws switch 80 from position B into position A. This starts the electric motor which operates the electric blower to cause air to be blown through the silica gel 51 into the comfort pad 10. Due to the fact that the silica gel has either been re-activated or has not needed re-activation, the air which passes around the hygostat will be relatively dry and will not cause the hygostat 60 to try to establish a contact. However, should the silica gel become saturated due to long continued use without the operator throwing the switch 80 into position B no

harm will be done by the closing of the hygrostat contacts as circuit B is open at the switch 80.

Figures 2, 3, and 4 illustrate another form of my device. The silica gel unit 85 extends only part way across the housing 21. The remainder of the distance is closed by a flap arrangement 86 which is pivoted at 87 and which may seal against the abutment 88 for substantially preventing air from flowing through the passage-way 89. The flap 86 is under the control of a solenoid operated plunger 90 and the coil 91 of the solenoid operated plunger is arranged in the electrical circuit of the thermostat 40 as shown in the circuit diagram of Figure 4 so that when the thermostat 40 is not satisfied and is calling for heat the flap 86 is open allowing air to pass through the passage-way 89. Accordingly, in the winter time when heated air is being supplied to the comfort pad 10 substantially all of the air by-passes the silica gel and retains its moisture. Thus warm moist air is supplied to the person in bed rather than warm dry air, and it has been found that the amount of heat supplied to the air by the heater coil 36 in order that the person should feel a given degree of comfort is considerably less.

Silica gel and many of the other dehydrating agents have the characteristic of absorbing substantially all of the moisture in the air which passes through it until the silica gel reaches saturation, at which point the agent no longer absorbs any moisture. In other words, the silica gel, while active, takes substantially all of the moisture out of air. It is not always desirable or necessary to pass absolutely dry air around the body of the person in order to give him a feeling of comfort, and during very moist days the quantity of water to be absorbed during 10 hours of operation would be large, therefore requiring a large amount of silica gel in the housing with consequent higher pressure to force the air through the silica gel container. If, for instance, the atmosphere has 80% humidity and air of 40% humidity is blown about a person he will feel more comfortable. Accordingly, only a portion of the moisture in the air need be removed, thereby saving in silica gel and saving on the size of the unit.

Figure 6 illustrates a modified form of silica gel container for passing air to the comfort pad which is not substantially 100% dry. It comprises the container 50 having end closure means 52 similar to the end closure means in Figure 1. At the ends it has rigid supports 100 and 101 over which the cloth to retain the silica gel is stretched and to which it may be connected. Between these two supports extend a number of small air pipes 102. The silica gel 51 is positioned around these pipes and the air which passes through the pipes does not become dehydrated as it does not contact the silica gel. The pipes 102 preferably should be of such size and number that there is established a resistance to the flow of air there-through which approximates the resistance to the flow through the silica gel. If the pipes were too large too much of the air would pass through them and not enough through the silica gel, resulting in insufficient dehydration of the air. If the resistance to the flow of air through the pipes 102 approximately equals the resistance to the flow of air through the silica gel then about one half of the air will pass through the silica gel and half will pass through the pipes. On a day which has, for example, 80% humidity, the humidity of the conditioned air of the comfort pad

will be about 40%. This is a sufficient drop to be readily noticeable by a person and would give an apparent feeling of coolness.

It is within the scope of my invention that moisture can be added to the air which is delivered through the comfort pad 12. This would be particularly valuable during dry winter nights. One method of adding moisture to the air would be to provide an opening in the top of the silica gel container 50 through which a small amount of water could be poured. The silica gel 51 will absorb this water and as warm air is forced through it, it will give the moisture up. Other methods which could be used would be to provide a tank of water with a wick of air pervious cloth or the like partially immersed in the water. Obviously a number of other methods could be used.

The comfort pad 10 has been described as comprising two sheets of material connected together at their edges and at a plurality of spots throughout its area to establish a hollow pad which does not "balloon" up when air under pressure is supplied to the pad.

Figures 7 and 8 illustrate two methods of connecting the two sheets 110 and 111 together. In Figure 7 the sheets have been "spot welded" together by applying to localized spots sufficient heat to soften the material and while the material cools pressure is applied. At the spot 114 the two sheets 110, 111 fuse together and become integral. Between the sheets at areas where they are not connected together the air is free to flow.

In Figure 8 the two sheets 110, 111 have been stitched together with thread 112, and the needle holes in the sheet 110 have been sealed by means of a hardenable material such as plastic cement, glue, shellac or the like to prevent air from escaping. The needle holes in the sheet 111 remain open for air to escape, thereby obviating the necessity for special air holes 9.

Figure 9 illustrates a multiple installation utilizing a plurality of comfort pads 10 connected to a single air conditioning unit 12' which obviously may be of a larger size than that used for a single pad. It is contemplated that hotels could have a central condition unit and pipes leading to all of the rooms. To these pipes the comfort pad shown in Figure 1 could be connected. In an installation of this size it would be economical to actually cool the air which is delivered.

While I have described my invention with a certain degree of particularity it is to be understood that numerous other arrangements of parts and many other different materials and processes of manufacture may be used without departing from my invention.

I claim as my invention:

1. In a comfort unit; the combination including enclosure means having a plurality of small holes therethrough and adapted to be positioned near a person; hose means one end of which is connected to said enclosure means; air conditioning means connected to the other end of said hose means, said air conditioning means including means for dehumidifying air; and means for forcing air through said dehumidifying means for dehumidifying said air and through said hose into said enclosure means from where it passes through the holes therein into contact with the body of the said person for establishing a cooling effect.

2. In a comfort unit; the combination including enclosure means having a plurality of small holes therethrough and adapted to be positioned

near a person; hose means one end of which is connected to said enclosure means; air conditioning means connected to the other end of said hose means, said air conditioning means including means of the moisture absorbing type for dehumidifying air; and means for forcing air through said dehumidifying means for dehumidifying said air and through said hose into said enclosure means from where it passes through the holes therein into contact with the body of the said person for establishing a cooling effect; and means comprising a portion of said air conditioning means for reactivating said dehumidifying means after it has absorbed a quantity of moisture.

3. In a comfort unit; the combination including enclosure means having a plurality of small holes therethrough and adapted to be positioned near a person; hose means one end of which is connected to the other end of said hose means, said air conditioning means including means of the absorbing type for dehumidifying air, means for forcing air past said dehumidifying means for dehumidifying said air and through said hose into said enclosure means from where it passes through the holes therein into contact with the body of the said person for establishing a cooling effect; and heater means comprising a portion of said air conditioning means for heating said dehumidifying means to reactivate it after it has absorbed a quantity of moisture.

4. In a comfort unit; the combination including enclosure means having a plurality of small holes therethrough and adapted to be positioned near a person; hose means one end of which is connected to said enclosure means; air conditioning means connected to the other end of said hose means, said air conditioning means including means of the moisture absorbing type for dehumidifying air; means for forcing air past said dehumidifying means for dehumidifying said air and through said hose into said enclosure means from where it passes through the holes therein into contact with the body of said person for establishing a cooling effect, and heater means for heating said dehumidifying means to reactivate it after it has absorbed a quantity of moisture, said heater means also being adapted to heat the air passing through said conditioning means and passing into said enclosure means.

5. In a comfort unit; the combination including enclosure means having a plurality of small holes therethrough and adapted to be positioned near a person; hose means one end of which is connected to said enclosure means; air conditioning means connected to the other end of said hose, said air conditioning means including means of the moisture absorbing type for dehumidifying air; means for forcing air through said dehumidifying means for dehumidifying said air and through said hose into said enclosure means from where it passes through the holes therein into contact with the body of said person for establishing a cooling effect; electrical heater means; and thermostatic control means for controlling the energization of said heater means for warming the air which is forced through said enclosure means; said heater means also being adapted to heat the air passing through said dehumidifying means for reactivating it.

6. In a comfort unit; the combination including enclosure means having a plurality of small holes therethrough and adapted to be positioned near a person; means for supplying air to said enclosure means at sufficient pressure to force

a quantity of it through said small holes; means for partially dehumidifying said air which is supplied to said enclosure means; heater means for heating said air which is supplied to said enclosure means; and means for utilizing said heated air for reactivating said dehumidifying means.

7. In an air conditioning unit, a housing having air inlet and air outlet openings, blower means for forcing air through said housing, moisture absorbing means within said housing for absorbing moisture from said air which is blown through said housing, means for heating the air which is blown through said housing, thermostat means for regulating the heating of said air, a hygostat within said housing, electrical circuit means connected through said hygostat to said blower and to said heater means, and switch means having a first and a second position, said switch means in said first switch position controlling said electrical circuit means to cause said blower and said heater means to operate together to blow warm air through said moisture absorbing means and out through said housing outlet independent of the position of said hygostat, and in said second switch position controlling said electrical circuit means to cause said blower and said heater means to operate together only when the humidity within said housing satisfies said hygostat to close the electrical circuit therethrough, said thermostat being operable when said switch means is in said first position to reduce the heat supplied by said heater means.

8. The invention as set forth in claim 7 further characterized in this: that said thermostat means is adjustable to regulate the heat supplied by said heater means.

9. The invention as set forth in claim 7 further characterized in this: that said moisture absorbing means comprises silica gel through which the air blown through said housing must pass.

10. The invention as set forth in claim 7 further characterized in this: that all of the air which passes through said housing passes through said moisture absorbing means.

11. The invention as set forth in claim 7 further characterized in this: that only part of the air which passes through said housing passes through said moisture absorbing means.

12. An air conditioning device including a pad pervious to air, means for supplying a stream of air to said pad at sufficient pressure to cause said air to pass through said pad, and means for conditioning the air supplied to said pad by removing at least a portion of the moisture therefrom.

13. In a device as set forth in claim 12, the further characterization that said means for conditioning the air supplied to the pad includes means for heating the air; said means for removing moisture from the air is an absorption means; and said means for heating the air also heats said absorption means.

14. In a comfort pad as described, a plurality of thin sheets of material disposed in face-to-face relationship and connected together at a plurality of discrete locations throughout its area and connected together in a continuous line about the peripheral edge thereof, said pad having an air inlet opening communicating with the space between said sheets and having a plurality of smaller air outlet openings, the said plurality of air outlet openings being in only one of said sheets.

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15. In a comfort pad as described, a plurality of thin sheets of thermoplastic material disposed in face-to-face relationship and integrally connected together at a plurality of discrete locations throughout its area and connected integrally together in a continuous line about the peripheral edge thereof, said pad having an air inlet opening communicating with the space between said sheets and having a plurality of smaller air outlet openings, the said plurality of air outlet openings being in only one of said sheets.

16. An air conditioning device as set forth in claim 15, further characterized in that said means for conditioning the air comprises a chemical dehydrator adapted to attract and hold moisture.

17. In a comfort unit; the combination including a flexible pad defining an enclosure having a plurality of small holes therethrough and adapted to be positioned near a person; air conditioning means connected to said flexible pad and including a supply of a chemical dehydrator adapted to attract and hold moisture, and means for forcing air into contact with said chemical dehydrator for at least partially dehumidifying said air and thence into said pad from where it passes through said holes into contact with the body of the said person for establishing a cooling effect.

18. In a comfort unit; the combination including enclosure means having a plurality of small holes therethrough and adapted to be positioned near a person, a housing having an air inlet opening and an air outlet opening connected to said enclosure means, blower means for forcing air through said housing, moisture absorbing means within said housing for absorbing moisture from said air which is blown through said housing, means for heating the air which is blown through said housing, thermostat means for regulating the heating of said air, a hygostat within said housing, electrical circuit means connected through said hygostat to said blower and to said heater means, and switch means having a first and a second position, said switch means in said first switch position controlling said electrical circuit means to cause said blower and said heater means to operate together to blow warm air through said moisture absorbing means and out through said housing outlet independent of

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the position of said hygostat, and in said second switch position controlling said electrical circuit means to cause said blower and said heater means to operate together only when the humidity within said housing satisfies said hygostat to close the electrical circuit therethrough, said thermostat being operable when said switch means is in said first position to reduce the heat supplied by said heater means.

19. A comfort unit as set forth in claim 18, further characterized in this: that said thermostat means is adjustable to regulate the heat supplied by said heater means.

20. A comfort unit as set forth in claim 18, further characterized in this: that said moisture absorbing means comprises silica gel through which the air blown through said housing must pass.

21. A comfort unit as set forth in claim 18, further characterized in this: that all of the air which passes through said housing passes through said moisture absorbing means.

22. A comfort unit as set forth in claim 18, further characterized in this: that only part of the air which passes through said housing passes through said moisture absorbing means.

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