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3,065,746

WALL MOUNTED HYDROTHERAPY APPARATUS

Filed June 16, 1961

2 Sheets-Sheet 1

Fig. 1.

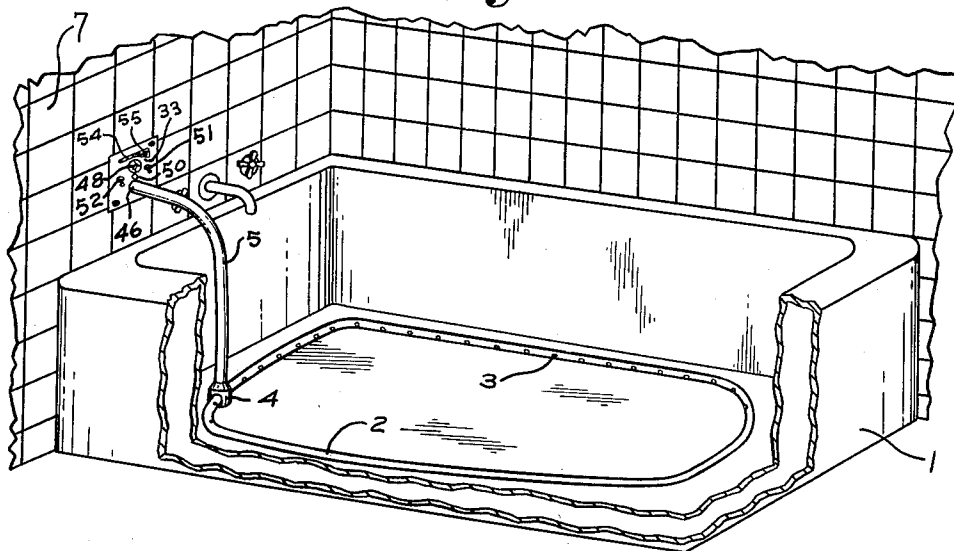
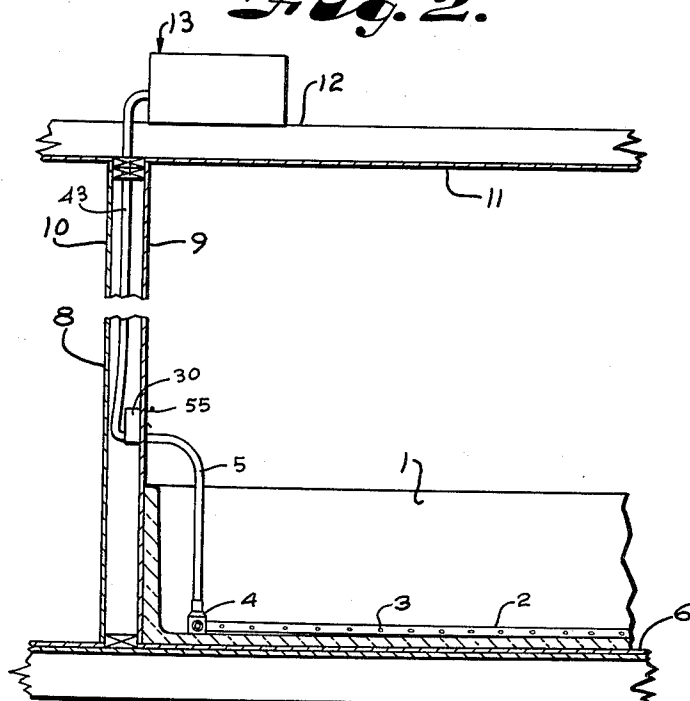


Fig. 2.



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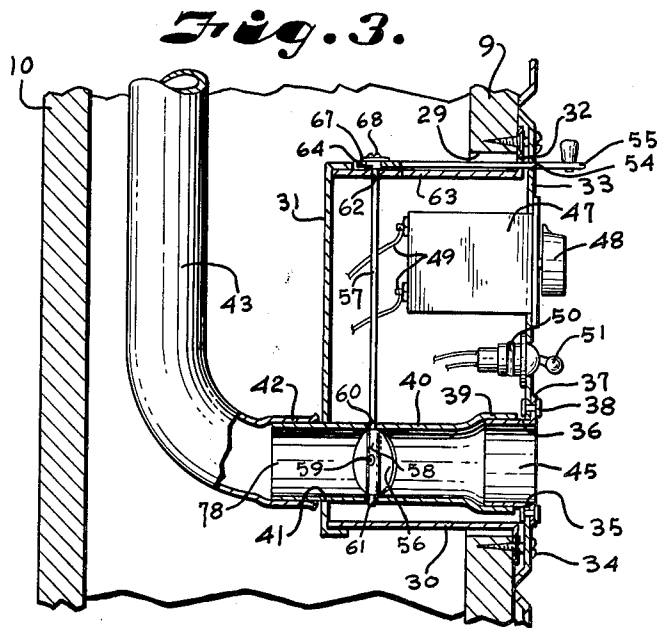
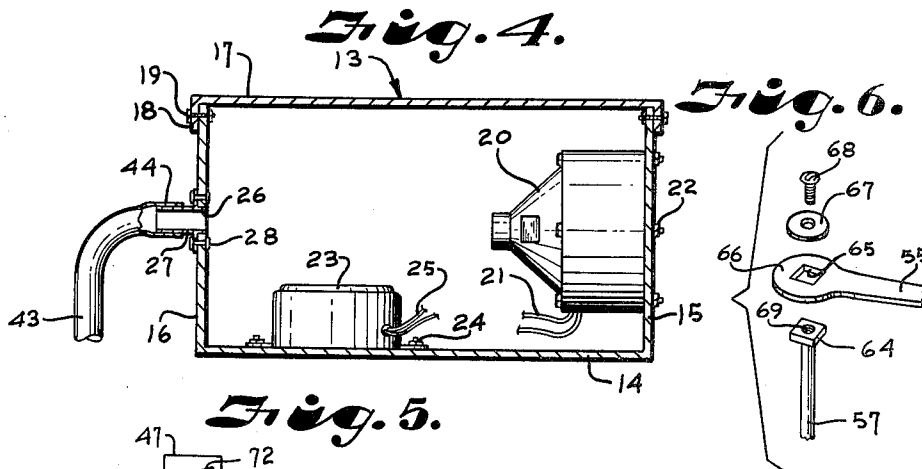
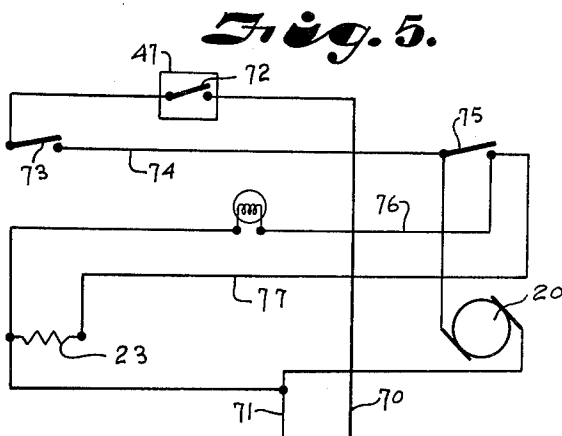
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WALL MOUNTED HYDROTHERAPY APPARATUS

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4 Claims. (Cl. 128-66)

This invention relates to an apparatus for hydrotherapy, and more particularly to hydrotherapy apparatus wherein the power unit is located remote from the bath tub in which the apparatus is used.

This application is a continuation in part of my co-pending application, Serial No. 89,433, filed February 15, 1961 and now Patent No. 3,043,296.

Heretofore, in use of hydrotherapy apparatus in bath tubs, the power unit has been used adjacent the tub in the bathroom which takes up room and requires wiring to the electric outlet exposed to the user.

It is therefore, the principal object of the present invention to provide a hydrotherapy apparatus in which the power unit is located remote from the bath tub, such as in the attic, basement or adjoining room.

Other objects of the present invention are to provide a housing for the power unit and including the motor and blower fan; to provide a heater for heating the air in the housing for furnishing to the ring in the bath tub so that the water in the tub will remain warm a greater length of time; to provide a control box in the wall of the structure adjacent one end of the tub having a panel for mounting of the controls thereon and which box is removable from the wall structure for repair or replacement; to provide a tubular connection between the housing for the powering unit and the box in the wall adjacent the bath tub; to provide for control of the volume of air through the tube to the ring in the tub; to provide the box with an outlet opening in the face thereof; to provide a tubular member for connection to said outlet opening and to the ring in the bath tub and to provide the ring in the bath tub with openings for emitting the air therefrom into the water in the tub.

Still further objects of the present invention are to provide a source of high volume low pressure air for supply of the air to the ring in the bath tub and to provide a device of this character, simple and economical to manufacture.

Other objects and advantages of this invention will become apparent from the following description taken in connection with the accompanying drawings wherein are set forth by way of illustration and example certain embodiments of this inventions.

FIG. 1 is a perspective view of a bath tub with parts broken away to illustrate the ring and tubular connection with the control box in the wall of the bathroom wall.

FIG. 2 is a sectional fragmentary view showing the power unit located in the attic above the bath tub and the connection to the ring in the tub.

FIG. 3 is an enlarged cross-sectional view, particularly illustrating the control box in the wall of the building structure adjacent the tub.

FIG. 4 is an enlarged sectional view through the power unit housing showing the motor blower and heater therein.

FIG. 5 is a diagrammatic view of the wiring for controlling the apparatus.

FIG. 6 is a partly fragmentary disassembled view showing the connection of the rod for regulating the volume of air through the tubular member.

Referring more in detail to the drawings:

1 designates a bath tub with parts broken away to illustrate the jet ring 2 of the hydrotherapeutic apparatus which illustrates openings 3 on the inner side wall of the ring and having a connection 4 for a tubular member 5 for a purpose later described. The bath tub 1 sets on

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the floor 6 of a room and is usually tiled therearound, as indicated at 7.

Referring specifically to FIG. 2, 8 designates the wall structure at one end of the tub, showing spaced walls 9 and 10, 11 the ceiling of the room and 12 the floor of an attic or other room above the bathroom. 13 designates a housing for the power unit, having a bottom 14, ends 15 and 16 and a removable cover or top 17, held on the end walls by a depending flange 18 and bolts 19.

Mounted on the end 15 of the housing 13 is a high speed motor and blower unit 20, having the usual electrical connection, as indicated at 21 and which will later more fully be described. The motor and blower are mounted on the end 15 by bolts or the like 22.

23 designates a heater mounted on the bottom of the housing by bolts or the like 24 and having an electric connection 25 to a source of supply also later referred to. The end 16 of the housing 13 has an opening 26 for a tubular connection 27 held therein by rivets or the like 28.

The wall 9 of the bathroom structure has an opening 29 therein in which is mounted a control box 30. The box may be at the end of the tub or around the corner of a wall adjacent the tub if the tub is located in a corner. The box 30 has a removable back member 31 and the forward edges of the box has laterally turned flanges 32 which engages the outside of the wall 9, as illustrated in FIG. 3. The front of the box is provided with a removable panel 33 which is held in place and secured to the wall 9 by screws or the like 34. The screws also engage through openings in the flange 32 of the box structure to mount the box in the opening 29 by securing the same to the wall structure.

The cover panel 33 of the control box is provided with an opening 35 in which is mounted a short tubular member 36 having a flange rim 37 engaging over the panel 33, secured therein by rivets 38. Attached to the sleeve 36 is the bell end 39 of a tubular member 40 which extends through an opening 41 in the rear cover face 31 of the control box and which is adapted to receive the bell end 42 of a tubular member 43 which has its other end extending to the housing 13 and its upper ends belled, as indicated at 44, and secured to the nipple 27 secured in the end 16 of the housing 13, so as to form a connection between the control box and the power unit. The short sleeve 36 forms an opening 45 for receiving the end 46 of the flexible tubular member 5 which connects with the ring 2 in the bath tub 1, as illustrated in FIG. 1. The tube 43 may be connected directly through the wall adjacent the box as desired, as it is obvious it is only necessary to have the end accessible to the flexible tube 5.

Mounted on the front panel 33 of the control box 30 is a timer element 47 having a control button 48 on its outside and having electrical connections, as indicated at 49, to a source of supply. Also mounted in the front panel 33 is a light element 50, a heater switch 51 and blower switch 52. The front of the panel 33 is provided with a slot 54 above the box 30 (FIG. 3) through which a lever 55 extends for controlling the volume of air through the tubular member 5 to the ring 3. The control of the volume of air is by a butterfly valve 56 mounted in the tubular member 40 by a rod 57 extending through a sleeved boss portion 58 of the valve and held thereon by a screw or the like 59. The rod 57 extends through an opening 60 in the top side of the tubular member 40 and its lower end extends into an opening 61 in the lower side thereof. The upper end of the rod 57 extends through an opening 62 in the top 63 of the control box 30 and has a square head 64 thereon for engaging in a square opening 65 of the head 66 of the lever 55. A washer 67 engages over the opening 65 in the head and the lever is held on the rod by a screw 68 engaging in

the threaded portion 69 of the head 64, as illustrated in FIG. 6.

FIG. 5 illustrates the electrical diagram from a source of supply (not shown) consisting of line 70 and 71, line 70 leading directly to the timer 47. Setting of the timer 47 will close the switch 72 and also movement of the switch button 52 will close the blower switch 73 through line 74 to the motor and blower 20. Turning of the button 51 will close the arm 75 of the electric circuit and automatically energize the light 50 through line 76. The heater and switch being connected by line 77. The blower and motor 20 will operate without the heater being energized. The heater cannot run without the blower being operated.

It will be obvious that the control box may be removed from the wall by removing the screws 34 and thus removing the plate 33 and the conduit or tube member 43 being movable between the walls 9 and 10 so that the bell end 42 thereof will be accessible from inside of the wall 9 and so that the tube may be removed from the end of the tube 40 and again assembled thereon as desired. The control box may then be completely removed from the opening 29 in the wall for repair or replacement of the parts therein, such as the timer 47, light 50 and the heater and blower switches.

In order to assemble the butterfly valve 56 in the tube 40, the valve may be inserted through the open end 73 and the tubular boss 58 aligned with the rod 57 for insertion therethrough. During the assembly of the rod, the back plate 31 may be removed for easy manipulation of the rod 57. The lever or handle 55 may be then secured to the upper end of the rod, as above described.

While I have here shown the power generating unit to be located in an attic or other places of location remote from the tub as may be desirable, it will be obvious that location of the power unit remote from the tub will lessen the noise of the motor fan, if not entirely eliminate it and eliminate the use of space in the bathroom by other motor means heretofore used. It further eliminates the necessity of using cords or hose in the bathroom connected with the ring of the tub, which is undesirable, particularly in use of connecting electric cords, as there is always some danger of the cords becoming wet and causing damage. The ring 2 is of the same construction as that shown in my co-pending application, Serial No. 89,433 heretofore referred to.

In use an hydrotherapeutic apparatus constructed and assembled as described, the ring 2 is placed in the bath tub and the flexible hose 5 connected to the ring, as illustrated in FIG. 1 with the end 46 thereof placed in the receiving opening 45 of the short tubular member 36 (FIG. 3). The end of the hose connection 46 is of the usual form which may be easily inserted in the opening 45 and removed therefrom. The tub 1 is then filled or partially filled with water, as desired (not shown) and the timer element 47 turned on by the control button 48. The blower switch 51 is then turned to the "on" position so that the electric connection 73 will be closed to operate the motor and blower 20. Operation of the motor and blower will cause air to flow from the housing 13 through the tubular member 43 and the flexible tube 5 inside the room to the ring 2, wherein it is expelled through the openings 3 into the water. In order to keep the water warm, the heater 23 is provided in the housing 13 to heat the air, as the blower and motor 20 causes it to enter the housing so that circulation of the water in the tub causing loss of heat of the water to the atmosphere will be prevented. The air is heated by turning on the switch 52 which causes the electric element 75 to close, thus energizing the heater 23. At the same time, the light 50 will be energized and as long as the heater is on it remains lighted to indicate that the heater is on. By manipulating the lever 55 to the right or left, the user may regulate the butterfly valve 56 in the tube 40 to control the volume

of air passing through such tube and to the ring 2 in the tub.

The control button 48, heater switch 51 and blower switch 52 mounted on the panel 33 are made of non-conductive material, such as hard rubber, plastic or the like, so that there will be no danger of shock from shortage of electrical wires.

It will be obvious from the foregoing that I have provided improved apparatus for hydrotherapy treatment wherein the power generating unit is remote from the tub and the control box is mounted in the wall in easy access to the user of the tub and for controlling of the air volume through the ring of the tub.

What I claim and desire to secure by Letters Patent is:

1. In combination with an agitating apparatus for use in a tub of water located in a building structure against a wall thereof, including an elongated tubular ring corresponding to the general shape of the bottom of the tub and having laterally directed jet orifices in the inner side of the ring for encircling the body of a person seated in the tub, said wall having spaced sides providing a space therebetween and said building including an attic, a power generating unit for directing a stream of air to said ring, said unit including a housing located in said attic, a high speed motor blower in said housing, a control box, means mounting said box in the space between the sides of said wall of the structure adjacent said tub, said box including a back and a removable front panel, switch means on said panel for controlling said blower, a tubular connecting member mounted in said front panel, a tube having one end connected to said tubular connecting member and its rear end extending through the back of said box, a tubular member having one end connected to said housing and its other open end connected to said rear end of the tube, a flexible hose connecting said tubular connecting member to said ring, a butterfly valve in said tube, and means operable from said tub for operating said valve for regulating flow of air through said tube and flexible hose.

2. In combination with an agitating apparatus for use in a tub of water located in a building structure having walls, including an elongated tubular ring corresponding to the general shape of the bottom of the tub and having laterally directed jet orifices in the inner side of the ring for encircling the body of a person seated in the tub, a power generating unit for directing a stream of low pressure high volume air to said ring, said means including a housing located at a place remote from the tub, a high speed motor blower in said housing, a heater in said housing for heating the air flowing therethrough, a control box, means mounting said box in the wall of the structure adjacent the tub, said box including a removable front panel having a portion extending above said box, switch means on said panel for controlling said blower and heater, a tubular member having one end connected to said housing and its other open end extending through said box and terminating in said wall structure adjacent said tub, a flexible hose connecting said first hose to said ring, a butterfly valve in that portion of said tubular member extending through said box, and means including a lever extending outwardly of said front panel for operating said valve for regulating volume of air through said tubular member.

3. In combination with an agitating apparatus for use in a tub of water located in a building structure having walls, including an elongated tubular ring corresponding to the general shape of the bottom of the tub and having laterally directed jet orifices in the inner side of the ring for encircling the body of a person seated in the tub, a power generating unit for directing a stream of low pressure high volume air to said ring, said unit including a housing located at a place remote from the tub, a high speed motor blower in said housing, a heater in said housing for heating the air flowing therethrough, a control box, means mounting said box in the wall of the struc-

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ture adjacent to and operable from said tub, said box including a top and a front panel, a portion of said front panel extending above said box, switch means on said panel for controlling said power generating unit including said blower and heater, a tubular member having one end connected to said housing and its other open end terminating in said box structure adjacent said tub, a flexible hose connecting said tubular member to said ring, a butterfly valve in that portion of said tubular member in said box including a rod extending upwardly through the top of said box, and a lever member having one end secured to said rod and its other end extending through said wall and front panel above said box for operation by the person in the tub to regulate the volume of air to said ring.

4. A power unit for supplying air at low pressure and high volume to a ring having jet openings therein in a tub having water for agitating the same, said tub being located against the wall of a building structure having an attic, said wall having spaced sides providing a space therebetween, said power unit being located in said attic and including a housing and a motor blower in said housing, a box mounted in the space between the sides

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of the wall, said box having a top and a removable front panel, said panel having a portion extending above said box, tubular means having one end connected to said housing and its other end extending through said box and having connection with said ring, switch means on said panel controlling operation of said motor blower, a valve in that portion of said tubular means extending through said box including a rod extending upwardly through said box, said front panel above said box having a transverse slot therein, a lever having one end connected to the top of said rod and its other end extending through said slot whereby movement of said lever will rotate said valve to regulate flow of air to said ring.

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References Cited in the file of this patent

UNITED STATES PATENTS

1,830,853	Osterhage	Nov. 10, 1931
1,860,009	Belt	May 24, 1932
2,793,640	Schwartz	May 28, 1957

20

FOREIGN PATENTS

757,041	Germany	Mar. 22, 1954
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