

1

3,131,967

AIR COOLED BARBER CHAIR

Tedford H. Spaulding, Chicago, Ill., assignor to Emil J. Paldar Company, Chicago, Ill., a corporation of Illinois

Filed Aug. 28, 1961, Ser. No. 134,315

7 Claims. (Cl. 297-180)

The present invention relates to improvements in barber chairs and particularly to an improved mechanism and method for comforting an occupant of a mechanical chair having adjustable and movable parts.

In a barber chair the chair occupant sits beneath a cloth which is thrown over him for preventing hair clippings and trimmings from falling on his person and clothing. This prevents normal circulation of air in the room from reaching the occupant and can cause discomfort.

A feature of the present invention is the provision of a mechanism for directing a flow of air across the lap and beneath the cloth over an occupant in a barber chair that is operable in a chair which is revolvable and elevatable, and wherein the rate of flow of air is selectively controllable by the occupant so that he can change the air flow with change of his position as the back and seat-rests are lowered and raised so as to change the quantity of flow necessary.

An object of the present invention is to provide an improved mechanism for creating a directed flow of air across the lap of a barber chair occupant and for creating a flow of air beneath the cloth or shroud of the occupant of the chair for an overall comforting effect and for aiding in preventing hair from contacting the chair occupant by generating a flow of air out from underneath the cloth.

A further object of the invention is to provide an air flow creating means for a barber chair wherein the air emerges at an optimum location for flow beneath the barbering cloth and wherein the occupant can selectively control the rate of flow of air for creating a slightly pressurized atmosphere beneath the cloth which can be changed with change in position of chair parts and position of the occupant.

A still further object of the invention is to provide a mechanism for providing a flow of comforting air across an occupant in a barber chair wherein the mechanism does not interfere with the normal functions of the chair and permits lowering and raising rotation of the chair.

A still further object of the invention is to provide an air flow means for a barber chair utilizing components of the chair for dual purposes and providing air emission openings which will not provide a sanitation problem and which will prevent hair from entering into air supply conduits.

Another object of the invention is to provide an air flow system for a mechanical chair wherein the conduits are conveniently positioned and adapted for preparation of the air before it is discharged such as by heating or cooling.

Other objects, advantages and features will become more apparent with the teaching of the principles of the invention in connection with the disclosure of the preferred embodiments thereof in the specification, claims and drawings, in which:

FIGURE 1 is a perspective view of a barber chair constructed in accordance with the principles of the present invention;

FIGURE 2 is a fragmentary perspective view, with portions broken away, showing the air flow mechanism for the chair;

FIGURE 3 is a fragmentary vertical sectional view illustrating a circuit mechanism for operating the blower;

2

FIGURE 4 is a fragmentary perspective view showing elements of the circuit mechanism of FIGURE 3;

FIGURE 5 is a wiring diagram illustrating a portion of the electrical control mechanism; and

FIGURE 6 is an enlarged fragmentary sectional view taken substantially along line VI—VI of FIGURE 2.

As shown on the drawings:

FIGURE 1 illustrates a barber chair 10 having a frame shown generally at 11 which is mounted on a base 12 so as to be elevatable and rotatable thereon. The frame supports a seat 13 with a backrest 14 and a footrest (shown in part). The chair occupant, or customer in a barber shop, is seated in the chair on the seat 13, and the backrest and footrest are respectively reclinable and elevatable for the comfort of the occupant and the convenience of the barber, the backrest and footrest being adjustable or movable to the dotted line positions as shown in FIGURE 1.

At the sides of the seat and suitably secured on the frame are armrest assemblies 16 and 17 including vertical hollow columns 18 and 19 with vertical planar inwardly facing surfaces having air emitting openings 21 and 22 formed therein. The columns are positioned so that they will rigidly and conveniently support armrests 25 and 27 at their upper ends, and so that the openings 21 and 22 will be positioned to direct a flow of air against the sides and across the lap of a chair occupant. This position for the openings is advantageous in that the barber cloth tends to form a hollow space or gap at the base of the occupant's lap and a flow of air directed beneath the cloth at that location will flow upwardly across the stomach and chest of the occupant and downwardly along his legs, for optimum comfort.

At one side of the chair is mounted a control arm 20 for rotating the chair as indicated by the arrowed line 23, or raising or lowering the chair, as indicated by the arrowed line 24. Usually the chair will be locked by a brake which is releasable for manual rotation of the chair, and the chair is raised or lowered by a hydraulic control mechanism operating a cylinder within a piston. This mechanism need not be shown in detail, as will be fully appreciated by those skilled in the art.

Supported beneath the chair frame under the chair seat is a lateral conduit 28 which connects at its ends with the hollow chair columns 18 and 19. A motor 29 driving a fan within an air intake opening 30 is supported within the conduit and air will be delivered simultaneously in both lateral directions to the side arm columns 18 and 19. In some structures it may be desirable to further condition the air which is drawn in such as by providing coolers or heaters at locations 31. These may be electrically energized and operated through suitable switch means and can be thermostatically controlled. For example, electric heating elements may be utilized if the air is to be heated, or thermoelectric cells operating under the Peltier effect may be employed for either heating or cooling the air, with heating or cooling accomplished by controlling the direction of flow of electricity.

The fan motor 29 is provided with a control switch 32, FIGURES 2 and 5, which makes it possible to regulate the rate of air delivery. This control of air flow is significant for the comfort of the occupant, and the function of the flowing air both generates a comfort zone beneath the barber cloth for the occupant, and the emerging flow of air keeps hair from falling beneath the cloth on the person of the occupant. As the occupant changes his position with change in position of the backrest 14 or the footrest 15, different rates of flow will be found to be desirable, and this is easily controlled by the occupant through the control switch 32 which is provided with a convenient manually operable knob as shown in FIGURES 1 and 2. The knob may also be operated by the

3

barber if desired. As shown in the wiring diagram of FIGURE 5, the switch 32 may be a simple rheostat control or other types of speed controls may be employed. Electrical power is brought to the chair to operate the motor and/or the air conditioning elements 31 through an electrical circuit which is adapted to accommodate rotation of the upper part of the chair while the lower base remains stationary. The circuit is illustrated as incorporating slip ring connectors 33, FIGURES 3 through 5.

The frame of the chair may be suitably attached to the upper end of a lift tube 34 which is supported in a suitable bearing, not shown, in the chair base 12. At the top of the lift tube is a plate 35 for securing to the frame, and the plate is lifted by a piston rod 36 connected to a piston within a cylinder 37. Within the lift tube are the slip ring assemblies 33, shown in stacked arrangement in FIGURE 3 for providing a required number.

Electrical energy is brought to the chair base through leads 39 which connect to ring portions of the slip ring assembly, and the rings are engaged by brush portions connected to leads 45 and 46 leading to the control switch 32 and to the motor 29.

In a preferred form of slip ring arrangement, as shown in FIGURES 3 and 4, the cylinder 37 has a continuation sleeve 40 with the grooves therein for receiving the leads 39, and the upper end of each of the leads is connected to a non-rotatable slip ring 41 supported on a support ring 42 mounted non-rotatably on the sleeve 40. Projecting through an annular rotatable disk are rods 44, and the leads 45 and 46 are connected to the insulated upper ends of the rods as shown in FIGURE 3. Brushes 43 are supported on the disk 38, and the rods move up and down with the chair frame to slide against the brushes 43, and the brushes rotate with the chair frame and with the disk 38 to slide on the stationary rings 41. In this manner the circuit accommodates up and down movement and rotation of the chair frame.

Operation of the fan 29 draws air up through the opening 30 and directs it laterally through the conduit 28 whereupon it flows up into the two side arm columns 18 and 19 and out through the openings 22. The air flow, as shown by the arrowed lines in FIGURE 6, is directed slightly downwardly across the lap of the occupant by the portions 47. These portions are cut from the opening 22 and are forced inwardly to extend inwardly and upwardly from the base of the openings. This arrangement also prevents hair from falling downwardly and entering the hollow columns 18 and 19.

Thus it will be seen that I have provided an improved barber chair which meets the objectives and advantages above set forth. It will of course be recognized that this arrangement may be used on other types of chairs although advantages are afforded in the barber chair combination illustrated.

The drawings and specification present a detailed disclosure of the preferred embodiments of the invention, and it is to be understood that the invention is not limited to the specific forms disclosed, but covers all modifications, changes and alternative constructions and methods falling within the scope of the principles taught by the invention.

I claim as my invention:

1. A barber chair comprising a chair frame rotatably and elevatably mounted on a base, a seat on said frame, hollow vertical armrest columns on the frame at the sides of the seat having inwardly facing surfaces and outwardly facing surfaces, means defining air emission openings in said inwardly facing surfaces for directing a flow of air beneath a barber cloth over an occupant in the chair, the outwardly facing surfaces being entirely imperforate so that the entire volume of air will discharge inwardly, conduit means including the hollow armrest columns for channelling a flow of air to said openings, a blower for direct-

4

ing a flow of air through said conduit means, and an electrical circuit connected to operate the blower extending up through the base of the chair and adapted to accommodate elevation and rotation of the chair frame with respect to the base.

2. A barber chair comprising a chair frame rotatably and elevatably mounted on a base, a seat on said frame, hollow vertical arm rest columns on the frame at the sides of the seat having inwardly facing surfaces and outwardly facing surfaces, means defining air emission openings in said inwardly facing surfaces for directing a flow of air beneath a barber cloth over an occupant in the chair, the outwardly facing surfaces being entirely imperforate so that the entire volume of air will discharge inwardly, conduit means including the hollow arm rest columns for channelling a flow of air to said openings, said conduit means further including a closed conduit beneath the seat interconnecting said arm rest columns and having an air inlet beneath the seat, a blower for directing a flow of air through said conduit means housed in said conduit beneath the seat, and an electrical circuit connected to operate the blower extending up through the base of the chair and adapted to accommodate elevation and rotation of the chair frame with respect to the base.

3. A barber chair comprising a chair frame rotatably and elevatably mounted on a base, a seat on said frame, air flow conduit means including hollow vertical arm rest columns on the frame at the sides of the seat with said columns having inwardly facing surfaces and outwardly facing surfaces, means defining air emission openings in the inwardly facing surfaces for directing a flow of air beneath a barber cloth over an occupant in the chair with the entire volume of air flowing through said conduit means being emitted through said emission openings, a blower for directing a flow of air through said conduit means, and an electrical circuit connected to operate the blower extending up to the base of the chair and adapted to accommodate elevation and rotation of the chair frame with respect to the base.

4. A barber chair comprising, a chair frame rotatably and elevatably mounted on a base, a seat on said frame, hollow arm rest members on the frame at the sides of the seat having inwardly facing surfaces and outwardly facing surfaces, means defining air emission openings in said inwardly facing surfaces for directing a flow of air beneath a barber cloth over an occupant in the chair, and blower means providing a flow of air through said hollow arm rest members with the entire flow of air from said blower means being discharged through said air emission openings in the inwardly facing surfaces.

5. A barber chair comprising a chair frame rotatably and elevatably mounted on a base, a seat on said frame, air flow conduit means including chambers defined within hollow arm rest columns on the frame at the sides of the seat with said columns having inwardly facing surfaces, means defining air emission openings in said inwardly facing surfaces for directing a flow of air beneath a barber cloth over an occupant in the chair, a blower housed within said conduit means for directing a flow of air through said conduit means with the entire discharge of said blower passing through said air emission openings, an electrical circuit connected to operate a blower extending up through the base of the chair and adapted to accommodate elevation and rotation of the chair frame with respect to the base.

6. A barber chair comprising a chair frame rotatably and elevatably mounted on a base, a seat on said frame, air flow conduit means including chambers defined within hollow arm rest columns on the frame at the sides of the seat with said columns having inwardly facing surfaces, a blower for directing a flow of air through said conduit means with the entire air discharge flowing through said air emission openings on inwardly facing surfaces of the arm rest, an air temperature control mount-

5

ed in said conduit means for controllably conditioning the temperature of the air flowing over the occupant in the chair, and an electrical circuit connected to operate the blower extending up through the base of the chair and adapted to accommodate elevation and rotation of the chair frame with respect to the base.

7. A barber chair comprising, a chair frame rotatably and elevatably mounted on a base, a seat on said frame, air flow conduit means including chambers defined within hollow arm rest columns on the frame at the sides of the seat with said columns having inwardly facing surfaces and outwardly facing surfaces, means defining air emission openings in said inwardly facing surfaces for directing a flow of air beneath a barber cloth over an occupant in the chair, a blower for directing a flow of air through said conduit means being mounted in said conduit means, an electrical circuit to operate the blower and extending up through the base of the chair and adapt-

5

10

15

6

ed to accommodate elevation and rotation of the chair frame with respect to the base, and control means on the chair connected to said blower and to said electrical circuit for controlling operation of the blower.

References Cited in the file of this patent

UNITED STATES PATENTS

1,898,738	Meutsch	Feb. 21, 1933
2,493,303	McCullough	Jan. 3, 1950
2,586,595	Ashby	Feb. 19, 1952
2,587,731	Irving	Mar. 4, 1952
2,703,134	Mossor	Mar. 1, 1955
2,738,593	Fox	Mar. 20, 1956
2,852,998	Serra	Sept. 23, 1958
2,987,116	Golden	June 6, 1961

FOREIGN PATENTS

271,598	Switzerland	Feb. 1, 1951
---------	-------------	--------------