

[54] **COMBINATION BATH AERATOR AND HAIR DRYER**

[75] Inventor: **T. Goodwin Lyon**, Los Angeles, Calif.

[73] Assignee: **Relaxaway Corporation**, West Los Angeles, Calif.

[22] Filed: **July 22, 1971**

[21] Appl. No.: **165,000**

[52] U.S. Cl. **128/66, 34/99**

[51] Int. Cl. **A61h 9/00**

[58] Field of Search **128/66, 24.1; 4/180; 34/96, 99**

[56] **References Cited**
UNITED STATES PATENTS

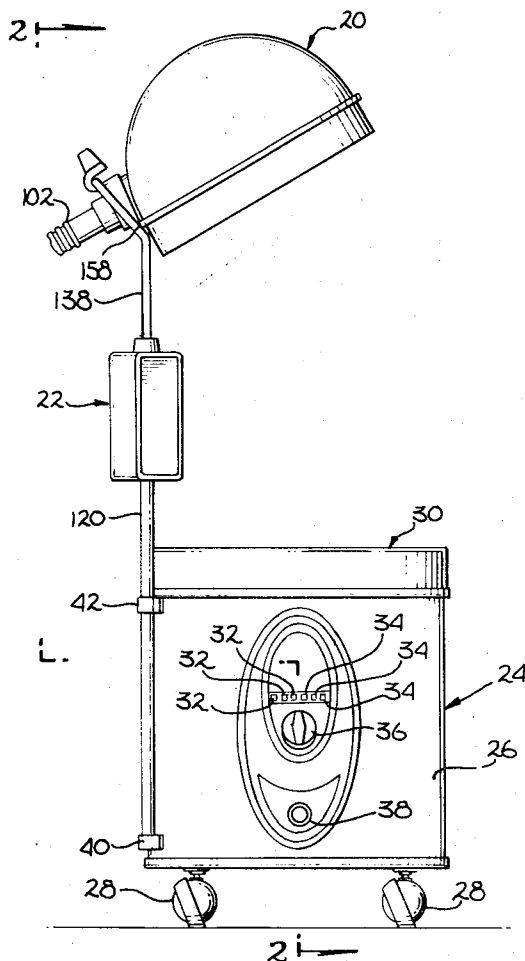
3,267,936	8/1966	Brady.....	128/66
3,481,328	12/1969	Powell.....	128/66
3,461,862	8/1969	Kemper.....	128/66

Primary Examiner—Lawrence W. Trapp
Attorney—Spensley, Horn & Lubitz

[57] **ABSTRACT**

A combination bath aerator and hair dryer using a single warm air blower unit which further serves as the seat and provides the required support for the hair dryer dome. The warm air blower unit has a lower chamber having an electrically driven blower and air heater therein, with various controls and an attachment for a flexible hose thereon for connection to the hair dryer unit or the bath aerating unit, and further has a provision for attachment of the hair dryer unit for adjustable support in functional disposition over the seat. The bath aerating unit is a disassembleable ring which is adapted to fit around the bottom edge of a bathtub and to connect to the flexible hose to direct the warm air into the bath water through a plurality of holes in the ring.

6 Claims, 9 Drawing Figures



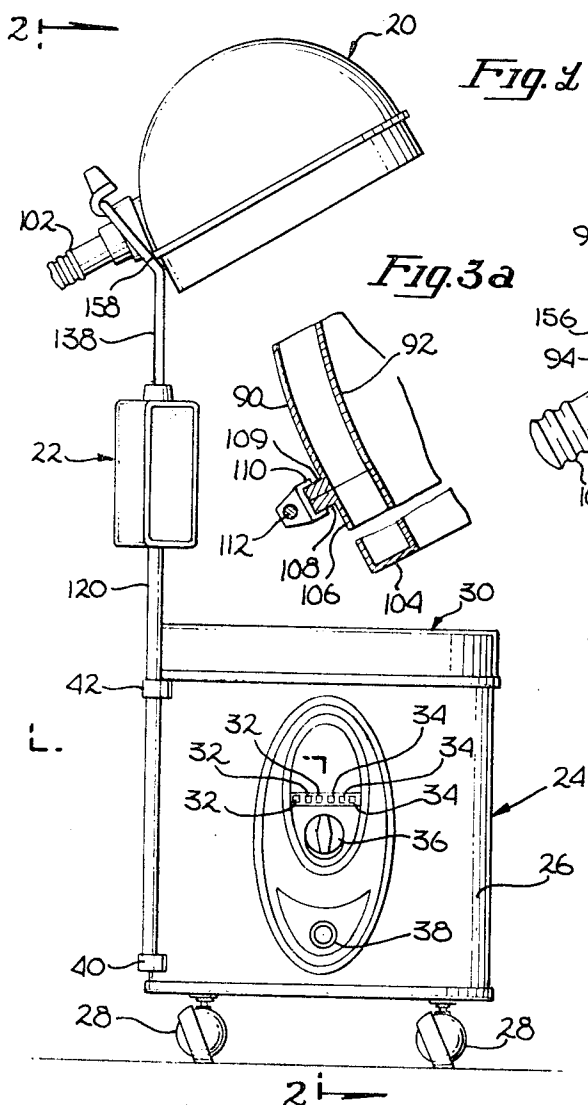


Fig. 1

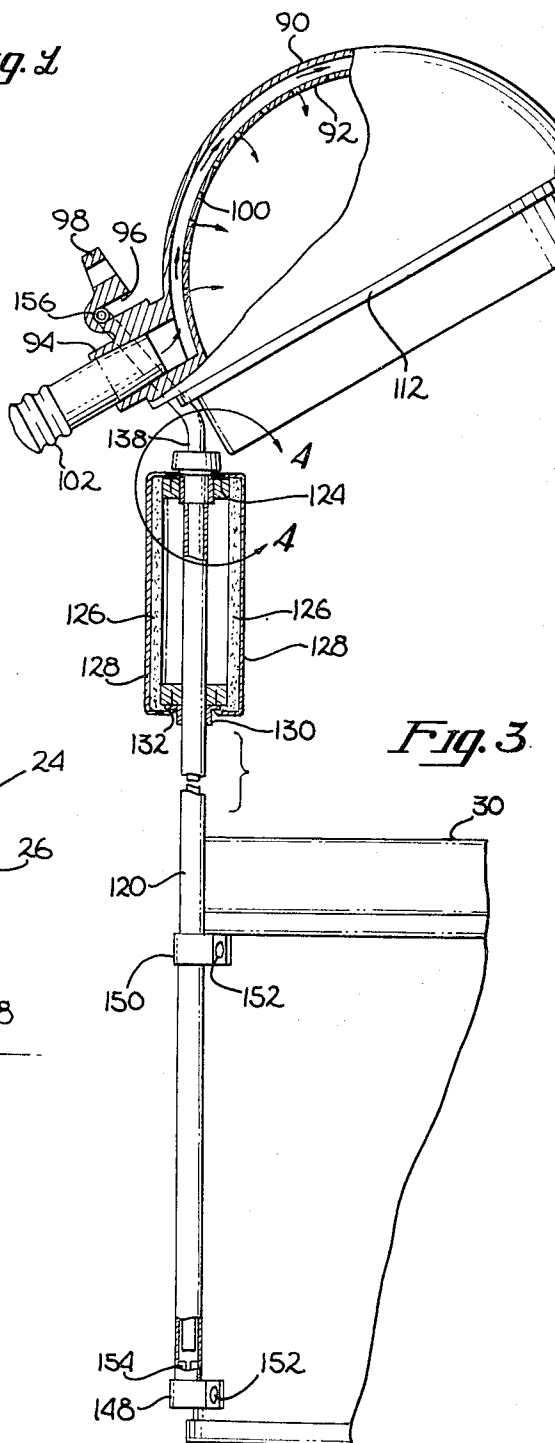


Fig. 3

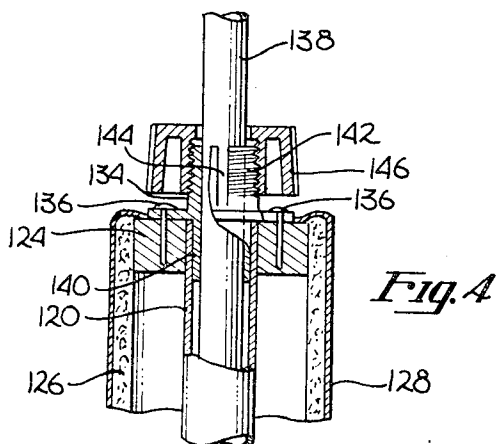


Fig. 4

T. GOODWIN LYON
INVENTOR

BY

Spensley, Thom & Lubitz
ATTORNEYS

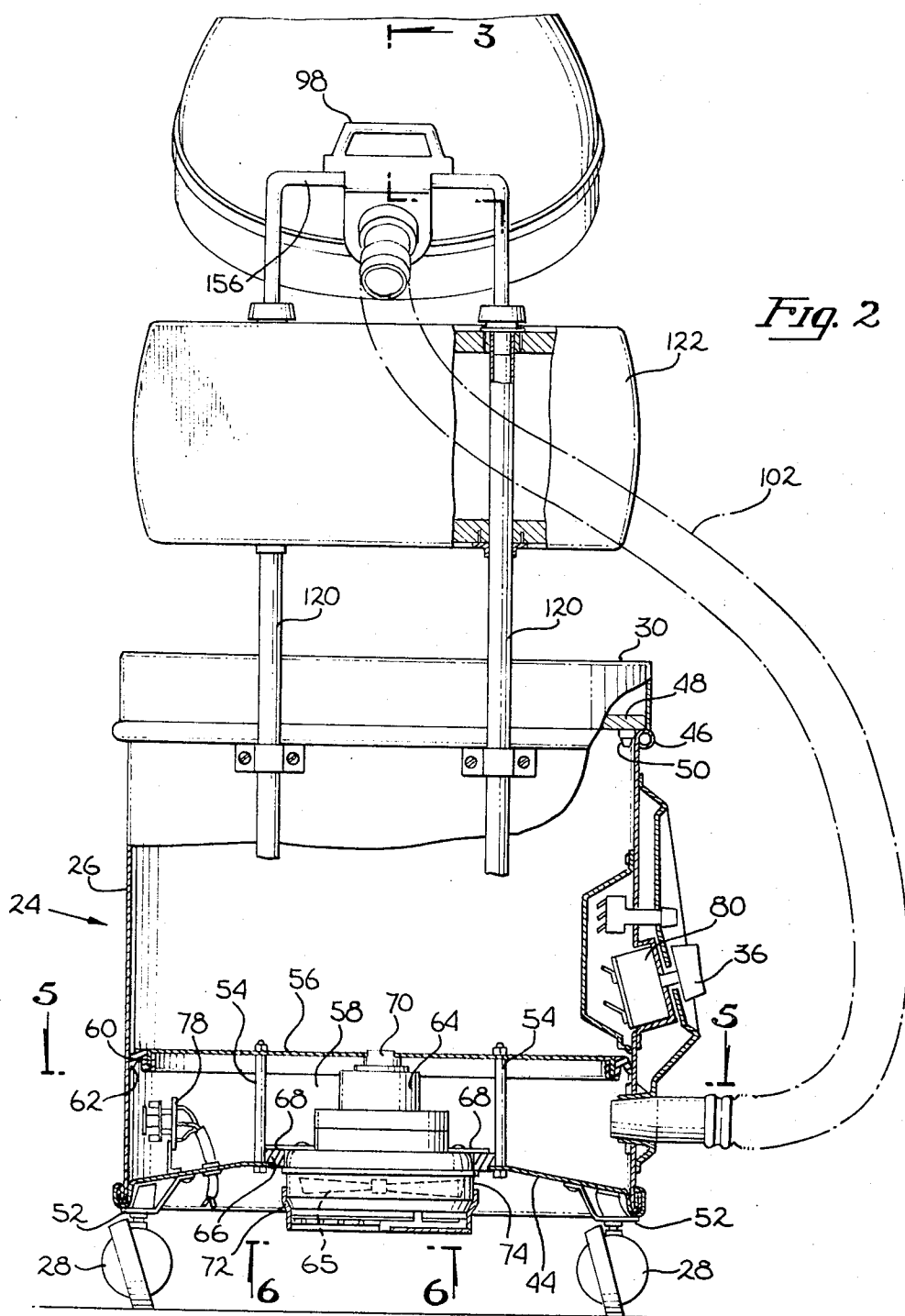


Fig. 2

3 T. GOODWIN LYON
INVENTOR

BY
Spensley, Horn & Schubitz
ATTORNEYS

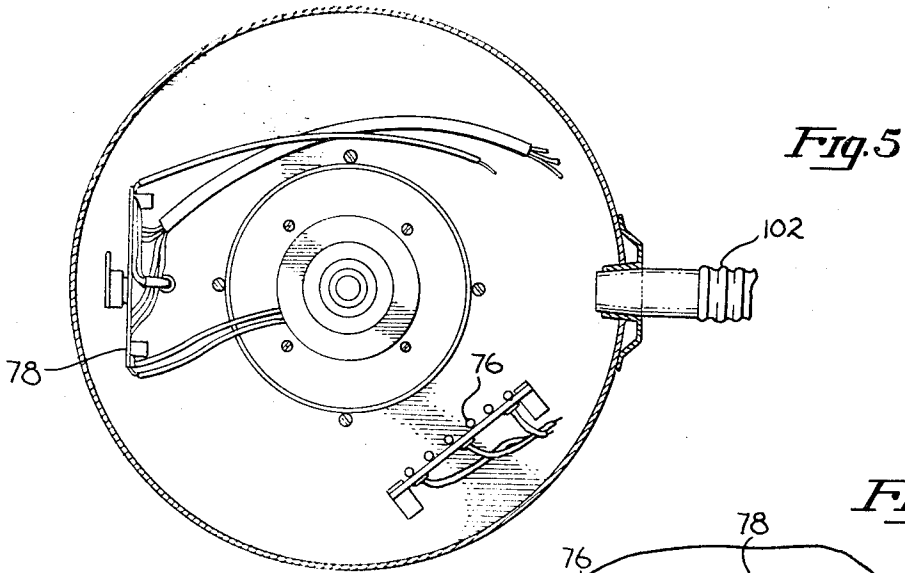
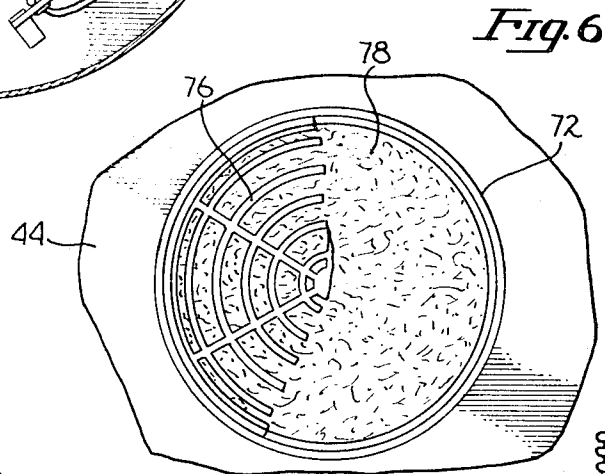
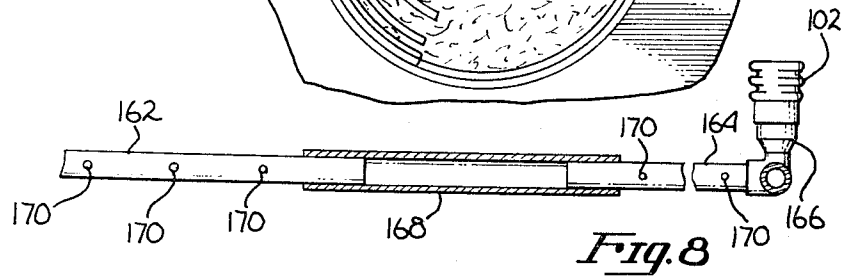
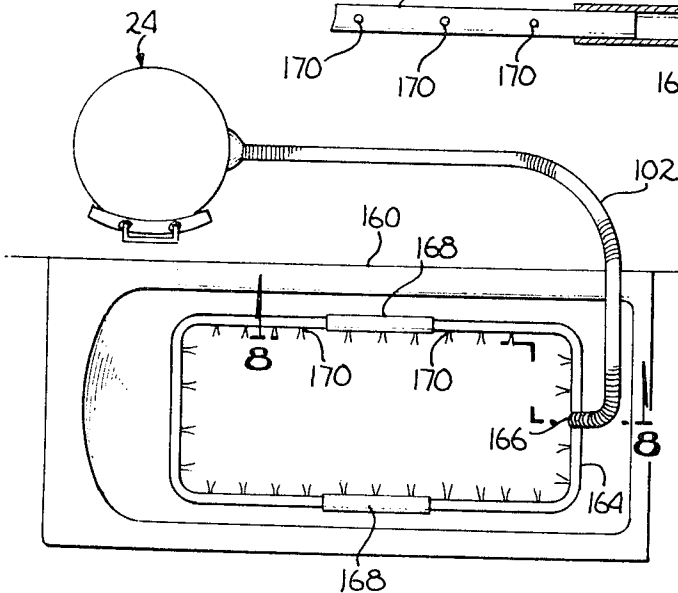


Fig. 7

T. GOODWIN LYON
INVENTOR.

BY *Spensley, Horn & Salisbury*
ATTORNEYS

COMBINATION BATH AERATOR AND HAIR DRYER

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to the fields of hair dryers and bathtub aerators.

2. Prior Art

Various forms of hair dryers and bathtub aerators are well known in the prior art. However, these prior art units are single purpose units, being adapted either solely for use as a bathtub aerator or solely for use as a hair dryer.

Prior art bathtub aerators are commonly comprised of a warm air blower unit having various controls thereon, a flexible hose, and some form of water aerating unit for mounting within a bathtub or immersion in the water within another vessel. The warm air blower unit characteristically has a motor driven blower and heater for delivery of heated air to the flexible hose. The shape and detailed construction of prior art blower units varies, with most blower units being designed either for compactness and ease of storage in a remote location, or for blending into the usual bathroom decor so that the unit may remain in a substantially fixed observable location within the bathroom. By way of example, U.S. Pat. No. 3,138,153 entitled "Hydrotherapy Apparatus" and No. 3,373,740 entitled "Hydrokinetic Bath Apparatus" both disclose warm air blower units of a relatively compact and non-ornamental configuration having handles on the top thereof for ease in transporting the unit. In contrast to this, U.S. Pat. No. 3,267,936 entitled "Hydrotherapy Apparatus" discloses a warm air blower unit having an external appearance similar to well known clothes hampers, as commonly found in the bathrooms of private homes.

The more common forms of water aerators are shown in the above referenced patents. These aerators are generally in the form of rings or oval shaped tubular members having a T section for connection to the flexible hose joining the aerator with the warm air blower. The tubular ring characteristically has a series of small holes through the tube communicating with the air passage within the tube and directed so as to dispense the warm air directed from the blower unit into the tube so as to aerate the water as desired. The tubular ring is generally made in sections so that it may be taken apart for storage, and occasionally is further made so as to be foldable for further ease in storage.

A number of configurations for hair dryers are also well known in the prior art. One type of hair dryer has the motor and air heater in the hood which is disposed over the head of the person using the dryer with the controls readily accessible on the hood. Thus, the hood contains all the functional elements for pumping, heating and dispensing the air, with the rest of the hair dryer, which may be in the form of a chair or merely a stand for placement behind a chair, serving simply as a support and position adjustment device for the hood.

Another type of prior art hair dryer is a smaller, more portable and more readily stored type of dryer having a small air heater and blower unit, a small flexible hose, and a plastic bag or canopy arrangement for tying around the head of the user. The plastic bag is provided with a connector for connection to the heater and blower unit through the flexible hose so that warm air

from the blower unit may be directed around the hair of the user.

Other types of hair dryers and bath aerators are also known in the prior art. However, most of these are single purpose units which have no provision for adapting them for the dual use of the present invention, and particularly to provide a hassock seat, a self-supporting hair dryer and a bath aerator combination in a single unit. By way of example, hair dryer blowers either of the self supporting type or the type which are adapted to use a flexible hose to connect to a plastic bag arrangement over the user's head often have inadequate air pressure and delivery rate capability for satisfactory use as a blower unit for a bath aerator and, of course, do not provide a self-supporting hair dryer unit. Similarly, prior art blowers for bath aerators are not adapted to provide any support or connection to a self-supporting hair dryer unit. By way of example, one prior art blower is sold with attachments for use as a bath aerator and as a hair dryer. However, the blower may only be used as a seat when not in use, and does not provide a seat, a backrest or a hair dryer support when being used with the hair dryer. Prior art self-supporting hair dryers either have the motor in the hair dryer dome so that the heated air could not be conveniently ducted to a bath aerator, or have a relatively permanent ducting from the blower unit to the dome, again so as to be relatively inaccessible for connection to ducting for a bath aerator.

BRIEF SUMMARY OF THE INVENTION

A combination bath aerator and hair dryer using a single warm air blower unit which further serves as the seat and provides the required support for the hair dryer dome. The warm air blower unit is a cylindrical unit mounted on casters with a lower chamber having an electrically driven blower and air heater therein controllable by the various controls mounted on the side of the blower unit. Also mounted on the side of the blower unit is an attachment for a flexible hose communicating with the lower chamber for connection through a flexible hose to the hair dryer unit or the bath aerating unit. A removable seat is supported on the top of the air blower unit, and provisions for connection of a backrest and an adjustable support for the hair dryer dome are provided therein.

The hair dryer dome is comprised of an inner perforated dome member and an outer dome member defining an air space therebetween, with a provision for attachment of a flexible hose communicating with the air space. The hair dryer dome is adapted to hook over an adjustable member for disposure generally above the seat on the hair dryer unit so as to form a self-contained hair dryer having a seat, a backrest, a hair dryer dome adjustable in vertical position over the seat and a warm air blower unit.

The bath aerating unit is a disassemblable ring which is adapted to fit around the bottom edge of a bathtub and to connect to the flexible hose to direct the warm air into the bath water through a plurality of holes in the ring. The ring which fits within the bathtub is a plastic coated metal ring having a sufficient weight so as to cause the ring to sink to the bottom of the tub even when the ring is filled with air.

The air heater and blower in the warm air blower unit are connected to a timer manually controllable by a control accessible on the side of the blower unit, and

are interconnected with the timer and other controls so as to allow a selection of blower speeds and air heater rates. Damage to the blower unit or the heater therein by operation of the heater with the blower off is not possible because of the interconnection of the various electrical elements in the blower unit.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side view of the apparatus of the present invention as arranged for use as a hair dryer.

FIG. 2 is a rear view in partial cross-section of the apparatus of FIG. 1 taken along lines 2—2 of that figure.

FIG. 3 is a partial view in partial cross-section of the apparatus of FIG. 1 shown on an expanded scale.

FIG. 3a is a cross-section of a portion of the hair dryer dome.

FIG. 4 is a view taken along lines 4—4 of FIG. 3 showing on an expanded scale a cross-section of the locking means for the member supporting the hair dryer dome.

FIG. 5 is a cross-sectional view taken along lines 5—5 of FIG. 2.

FIG. 6 is a view taken along lines 6—6 of FIG. 2.

FIG. 7 is a top view of the apparatus of the present invention arranged for use as a bathtub aerating unit.

FIG. 8 is a partial cross-section taken along lines 8—8 of FIG. 7.

DETAILED DESCRIPTION OF THE INVENTION

First referring to FIG. 1, a side view of the present invention as it would be used as a hair dryer may be seen. The principal components comprising the hair dryer are a hair dryer dome generally indicated by the numeral 20, a hair dryer support and backrest generally indicated by the numeral 22, and a warm air blower unit generally indicated by the numeral 24. The blower unit has an outer cylindrical member 26 supported on casters 28, and in turn supports on its upper surface a seat 30. On the side of the cylindrical member 26 are three blower control switches 32, three heater control switches 34 and a timer control 36 in a position readily accessible to a person either approaching the unit or sitting on seat cushion 30. Located below these various controls is a port or opening 38 for connection to a flexible hose coupling the blower unit 24 to the hair dryer dome 20. Attached to the back of the air blower unit are a plurality of clips 40 and 42 for supporting the hair dryer support 22.

Now referring to FIG. 2, a rear view of the hair dryer unit of FIG. 1 partially cut away and shown on an expanded scale may be seen. Cylindrical member 26 is attached along its lower edge to a bottom member 44 and is rolled over at its upper edge 46 so as to have a tubular cross-section at the top thereof. The upper edge 46 presents a supporting surface for engagement and support of seat 30, consisting of an outer layer of decorative fabric, an inner layer of cushion-like material and a right base 48 for engagement and support by upper edge 46. A plurality of downward projecting plastic members 50 are attached to the bottom surface of the base 48 and distributed around the periphery of the base 48 so that the seat is automatically centered with respect to cylindrical member 26, but may be readily lifted off for access to a storage space thereunder.

Casters 28 are attached to bottom member 44 and have supporting members 52 projecting outward under

cylindrical member 26, so as to receive forces therefrom as a result of a person sitting on seat 30 for transfer directly to the casters. Also attached to the bottom member 44 are four equally and concentrically spaced stand-offs 54 which, in turn, support an intermediate plate 56 to define a lower chamber 58. The intermediate plate 56 has a downward projecting outer edge 60 for engagement into a special rubber seal ring 62 which provides an air seal between intermediate plate 56 and the inner wall of cylindrical member 26, and further provides vibration isolation between these two members.

A blower motor 64 having a conventional impeller 65 at the lower end thereof, for drawing air coaxially with the motor in a generally upward direction into the intermediate chamber 58, is located between bottom member 44 and intermediate plate 56. The blower motor 64 is supported on a rubber ring member 66 by outward projecting members 68 attached to the motor housing, and is retained in position between bottom member 44 and intermediate plate 56 by entrapment therebetween so as to partially compress the rubber ring 66 and rubber end piece 70 at the upper end of the motor.

The lower end of the motor 64 serves as the air intake and is covered with a slip-on air filter, which may be seen in FIG. 2 and in greater detail in FIG. 6. The air filter is comprised of a plastic member 72 adapted to slip over the end of the motor housing 74 enclosing the air impeller, the plastic member defining a plastic screen-like face 76 covering the air intake. A porous foam rubber sheet 78 covers the screen-like face 76 to provide the desired filtering action.

Mounted on the upper surface of the bottom member 44 and supported in lower chamber 58 are an air heater 76 and a motor speed control circuit 78, both of which may also be seen in FIG. 5, which is a cross-section taken along lines 5—5 of FIG. 2. The air heater 76 is comprised of coils of resistance wire interconnected with heater controls 34 (FIG. 1) so as to variably heat the air within the lower chamber 58 in a manner controlled by the switches. Since the air in the lower chamber 58 is under considerable agitation due to the blower (the heater and blower being interconnected so that the heater will only operate when the blower is operating) the heater need not, and in the preferred embodiment is not, directly in line with opening 38 forming the heated air outlet for the lower chamber. The motor control circuit 78 is a conventional silicon controlled rectifier motor speed control circuit of the type well known in the prior art for the control of the speed of an A-C motor through phase control of the electrical power delivered to the motor. The motor speed control circuit 78 is interconnected to the motor speed control switches 32 and the motor 64 so as to be controllable through the switches by the user of the air blower unit. As an alternate embodiment, a multispeed motor may be used, thereby eliminating the motor control circuit 78.

Also mounted on the side of the cylindrical member 26 is a timer 80 controllable through timer control knob 36. The timer 80 is a mechanical timer operative to open a switch at the end of a pre-set time and to maintain the switch in the open position until the timer is reset for subsequent operation. The timer is wired in series with the main power cable for the blower unit and is operative to turn off both motor 64 and heater

76. The motor speed control switches 32 provide three motor speeds but do not provide a motor-off selection, whereas the heater control switches 34 do provide such an off condition. Consequently, the heater 76 may or may not be energized when the motor 64 is running, but in no event may the heater be energized when the motor 64 is not running. Thus, heater burn-out and/or damage to other parts of the air blower unit due to a lack of circulating air within the lower chamber 58 is avoided.

The hair dryer dome 20 may be seen in FIGS. 1 and 2, and in greater detail in the partial cross-section of FIG. 3 and in the exploded cross-section of FIG. 3a. The hair dryer hood has an inner dome member 92 and an outer dome member 90 with a rearwardly projecting structure defining a cylindrical connection 94 communicating with the space between outer hood member 90 and inner hood member 92. The rearward projecting structure also defines a U-shaped relief 96 above the cylindrical connection 94, and further defines a handle 98 above the U-shaped relief for ease in removal and transportation of the hair dryer unit. The inner dome member 92 has a plurality of holes 100 therethrough for even distribution of the heated air delivered from the air blower unit 24 through flexible hose 102. The inner dome member is a molded plastic member having a pronounced dome shape and further having integral therewith an outward substantially radially projecting lower surface 104, a substantially cylindrical section 106 of a diameter substantially equal to the diameter of the outer dome member 90, and an outward projecting lip 108 for engagement by a metal locking channel 110. (FIG. 3a) The outer dome member 90 has an outward projecting lip at the lower edge thereof mating with the outward projecting lip 108 integral with the inner dome member 92. The locking channel 110 is in the form of a circular arc, being split at one location, generally under the cylindrical connection 94, and having a clamping screw 112 which may be used to expand or to decrease the diameter of the arc of the locking channel. The locking channel engages the outward protruding lips 108 and 109 integral with the inner and outer dome members, respectively, to retain the dome members in concentric disposition to each other without substantial air leakage around locking channel 110.

Now referring to FIGS. 1, 2 and 3, hair dryer support 22 and the manner in which it supports the hair dryer 20 and, in turn, is supported by the air blower unit 24 may be seen. Two tubular members 120 project upward in substantially parallel relationship into the backrest 122. The backrest itself is of curved cross-section having a wooden frame 124, a layer of padding 126, and an outer decorative cover 128. The tubular members 120 each have a flange member 130 welded thereon which in turn is attached to the lower portion of the wooden frame 124 of the backrest by screw 132.

The tubular members 120 extend upward through the backrest to a position adjacent the top of the wooden frame 124 as may be seen in FIG. 4. A plastic member 134 is attached to the top of the wooden frame 124 by means of nails 136, and has a sleeve 140 guiding the upward extending bars 138. The plastic member also has integral therewith an upward projecting slightly tapered threaded section 142 which has a plurality of slots 144 to allow the radial compression of the threaded member. A nut-like member 146 having a serrated outer surface for ease of gripping, and a tapered,

internally threaded inside surface, threadedly engages the upward projecting section 142 of the plastic member 134, so that by tightening the nut-like member 146 the threaded section of the plastic member 134 may be caused to move radially inward to clamp the upward extending rods 138.

The lower portion of each of tubular members 120 is supported on the blower unit 24 by plastic supports 148 and 150 which are attached by screws 152 to the cylindrical member 26. The plastic support 148 has an upward projecting section 154, having an X cross-section, fitting within the tubular members 138 so that the plastic support 148 may provide both vertical and radial support and alignment of the tubular members. The plastic clips 150 are substantially U-shaped clips passing around the tubular members 120 and retaining the tubular members in the desired position.

The upward extending bars 138 bend rearward near the tops thereof and are joined at the top by a horizontally disposed bar 156, as may be best seen in FIG. 2. The U-shaped relief 96 in the hair dryer dome 20 is adapted for easy engagement with the horizontally disposed bar 156, so that engagement of the bar at the bottom of the U-shaped relief, in combination with contact between the upward extending bars 138 and the locking channel 110, generally in the area 158 (FIG. 1) supports the hair dryer dome 20 in the functional disposition shown. Thus, the hair dryer dome 20 is supported over the seat 30 in the angular position shown in FIGS. 1 and 3, and in a vertical position which may be readily adjusted by first loosening the nut-like members 146, then adjusting the position of the hair dryer dome, and finally again tightening nut-like members 146.

Now referring to FIGS. 7 and 8, a top view of the present invention as it would be used as a bathtub aerator and a partial cross-section of the bathtub aerating pipe may be seen. The bathtub aerating unit is adapted to encircle the lower edge of the bathtub 160 and is comprised of a plastic coated metal U-shaped member 162, a plastic coated metal U-shaped member 164 with a "T" section, generally indicated by the numeral 166, for connection to the air delivery hose 102, and two plastic tubular members (168 which slip over the ends of the U-shaped members) 162 and 164. The use of the plastic coated metal U-shaped members 162 and 164, rather than solid plastic members, provides sufficient weight to cause the aerating unit to remain at the bottom of the bathtub even when the tubular structure is full of air. Thus, additional weighting in the aerating unit is not required. The U-shaped tubular members 162 and 164, and the plastic tubular members 168, have a series of generally inwardly directed holes 170 for directing the air delivered to the aerating unit through hose 102 inward into the bathtub water.

Thus, the apparatus of the present invention may serve as a decorative seat for general use, as a self-supporting hair dryer unit of adjustable height, and as a bathtub aerating unit, by the easy placement of the bathtub aerating unit or the hair dryer unit and the appropriate attachment of the flexible hose 102. To operate the apparatus of the present invention, the desired motor speed and heat range are selected through push-button switches 32 and 34 and then the apparatus is turned on for the desired time duration by setting control knob 36 on timer 80 to the desired time setting. For a warm bath, medium speed and high heat are most

commonly used, while for a cold bath, low speed and no heat are used. For use as a hair dryer, low speed and high heat provide the best drying combination. The user may, of course, vary these settings to achieve the specific effect he desires. The bathtub aerator may serve as a Hydrotherapeutic device, resulting in relax-
ful enjoyment and perhaps soothing relief to the user.

It is to be understood that while the invention has been particularly shown and described with reference to a preferred embodiment thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the invention.

I claim:

1. A warm air blower unit for use as part of a bath aerator and a self-supporting hair dryer comprising a housing supported above a floor having a lower chamber, said lower chamber having a motor and air impeller connected thereto and cooperatively disposed with respect to an opening in the bottom of said lower chamber so as to be operative to encourage air through a filter covering said opening into said lower chamber, said lower chamber having an electric heater disposed so as to be operative to heat the air therein, said housing having a means for receiving a flexible hose communicating with said lower chamber, said housing having a speed control means for controlling the speed of said motor, and supporting on the side thereof a means for selectively controlling said motor speed control means to control the speed of said motor between predetermined lower and upper speeds, a heater control means for selectively and independently controlling said heater, and a main power switch for controlling electrical power to said means for selectively controlling said motor speed control means and said heater control means, said housing having a top panel with a seat thereon, and said housing having means for attaching a support for supporting a hair dryer unit, to be connected to said hose, above and generally over said seat cushion.

2. The warm air blower unit of claim 1 further comprised of a silicon controlled rectifier motor speed control, said speed control being disposed within said lower chamber and coupled to said motor and said means for selectively controlling said motor speed control so as to be operative to control the speed of said motor.

3. The warm air blower unit of claim 1 wherein said main power switch comprises a timer, said timer being operative to interrupt electrical power to said means for selectively controlling said motor speed control means and said heater control means upon the expiration of a set time.

4. A warm air blower unit for use as part of a bath aerator and a self-supporting hair dryer comprising a vertically disposed cylindrical tank shaped housing having a bottom and an intermediate partition defining a lower chamber, said housing being supported and spaced from a floor by a plurality of casters disposed substantially about the periphery of said housing, said housing having a motor with an air impeller attached thereto mounted in said bottom chamber and disposed with respect to a first opening in said bottom so as to be capable of drawing air through said opening, said first opening being covered with a removable air filter, said lower chamber having a motor speed control circuitry and an air heater disposed therein, said housing

having switches for independent control of said heater and the speed of said motor between predetermined upper and lower speed limits through said motor control circuitry, and a timer mounted on said housing, said switches and said timer being controllable from the side of said housing, said timer being operative to disconnect said motor and said heater from a source of electrical power upon the expiration of a set time, said housing having an opening in the side thereof communicating with said lower chamber and adapted to receive a first end of a flexible hose for directing heated air to a hair dryer or a jet bath, said housing having a removable top panel having a seat thereon covering the top of said housing, and means on said housing for attaching a support for supporting a hair dryer unit, to be connected to a second end of said hose, above and generally over said seat cushion.

5. The warm air blower unit of claim 4 wherein said motor speed control circuitry is a silicon controlled rectifier motor speed control.

6. A combination bath aerator and hair dryer comprising: a flexible hose, a warm air blower unit having a housing supported above a floor with a lower chamber therein, said lower chamber having a motor and air impeller connected thereto and cooperatively disposed with respect to an opening in the bottom of said lower chamber so as to be operative to encourage air through a filter covering said opening into said lower chamber, said lower chamber having an electric heater disposed so as to be operative to heat the air therein, said housing having a means for receiving said flexible hose communicating with said lower chamber, said housing supporting a plurality of switches on the side thereof for controlling said heater and said motor, said housing having a top panel with a seat cushion thereon, and said housing having a support for supporting a hair dryer unit, to be connected to said flexible hose, above and generally over said seat cushion,

said hair dryer unit having a hair dryer dome and a dome support attached to said warm air blower, said hair dryer dome having an outer dome member and an inner dome member inwardly spaced from said outer dome member and joined thereto at the lower edge of said inner dome member, said inner dome member having a plurality of holes therein for directing air between said inner and said outer dome members generally toward the center of said inner dome member, said outer dome member having a means for attachment to said flexible hose communicating with the space between said inner and said outer dome members, said hair dryer dome further having means for engaging said support to dispose said hair dryer dome over said warm air blower unit, and

a bathtub aerating unit having a first U-shaped tubular member, a second U-shaped tubular member, and two straight tubular members adapted to slip over the ends of said first and second tubular members to form a tubular ring-like structure for placement in the bottom of a bathtub, said first U-shaped tubular member having a "T" section therein for connection to said flexible hose, said first and second U-shaped tubular members and said two straight tubular members having a plurality of holes therein for directing air into the bathtub water.

* * * * *