ABSTRACT

A sunbather misting apparatus is described having a lounge chair having inverted U-shaped arms. The apparatus also comprises misting nozzles each attached to the lounger. Mist- ing nozzles will be attached to the mid section of the lounger, right and left side, while the others will be attached at the foot of the lounger, right and left side, which together provide complete mist coverage over the lounge chair. On/off valves are provided on the right side of the lounger with pressurized water source to allow for controlled, intermittent flow of water misting substantially over the chair.
LOUNGE CHAIR WITH MISTING FEATURE

[0001] This application claims priority to U.S. provisional patent application Ser. No. 61/428,021 filed on Dec. 29, 2010, the subject matter of which is incorporated herein by reference.

BACKGROUND

[0002] 1. Field of the Invention

[0003] This invention relates to lounge chairs having systems attached thereto for use in spraying water mist on a sunbather, more specifically to lounge chairs having a misting system.

[0004] 2. Description of the Prior Art

[0005] Devices for sunbathers are known which attach to a lounge chair and provide mist over the chair. For example, see U.S. Pat. No. 6,089,655 to Colman (1999).

SUMMARY OF INVENTION

[0006] It is also an object of this invention to provide a lounge chair with a misting system of minimal components, which integrated into the lounge chair seating area to be almost entirely hidden from view.

[0007] A further object of this invention is to provide a lounge chair with a misting system which allows several misting lounge chairs to be coupled together and connected to a garden hose.

[0008] It is also an object of this invention for the misting system of the lounge chair to not to have attachable parts but to be manufactured to the lounger.

[0009] A further object of this invention is to provide a lounge chair with a misting system that can be easily and conveniently turned on and off by the sunbather and to easily control the pressure and direction of the mist wanted.

[0010] As described herein, the present invention would provide a lounge chair apparatus having a simple misting system comprising a plurality of nozzles capable of creating a misting fog over the lounger so as to cool the sunbather. Since the front support of each inverted U-shaped lounge chair arm would be positioned in proximity to a seated adult sunbather’s knees and two nozzles would be placed within the inside seated area of the chair mid-section opposite (right/left side) and two nozzles would be placed at the feet of the loungers (right/left side), creating 180° mist.

[0011] Also, the lounge chairs may be stacked to facilitate packaging of the chairs for mass distribution and other purposes, as the tubing connecting the nozzles is recessed in the back, to approximately flush with the chair component to which it is attached.

[0012] Further, since the misting system of the present invention is substantially hidden during use, a waterproof cushion or pad could be placed on the lounger for enhanced comfort of a seated sunbather and such a cushion or pad would not interfere with the operation of the misting operation.

[0013] In addition, the misting system is small and compactly designed for low water usage so that it can be connected to a municipal water source with multiple loungers using one garden hose with short sections of hose to be connected for multiple chair use. It is not contemplated for a seated sunbather to be continuously engulfed in mist during sunbathing, but only for the misting system to be periodically activated by the sunbather as needed to provide cooling refreshment during extended time in the sun. As a result it is contemplated that the present invention has a plurality of valves, preferably positioned in the chair arms. Alternatively, the chair may have an insulated control box with on/off and the pressure of water wanted. Also, it is contemplated for the misting system of the present invention to be configured so as to have a rapid, leak-free assembly without the use of adhesive compounds.

[0014] The apparatus is small in dimension and compactly positioned within the mid-section of the lounger and the foot of the lounger as to be substantially hidden from view during use, the lounge chair comprising two chair seat near to its mid-section so as to be in proximity to a seated adult sunbather’s knees, and the misting system further comprising four misting nozzles each strategically housed within the lounger, two at the mid-section and two at the feet and connected to a pressurized water source through a small-bore conduit, each nozzle being positioned directly opposed to the other. An on/off valve connected to the lounger allows the sunbather to regulate the duration and the pressure of the mist.

[0015] The water-conserving design of the invention also allows for multiple lounge chair hook-ups to a single garden hose to provide a sunbather misting relief during an entire day in the sun.

[0016] The device may also have an additional keyed valve for rental purposes.

[0017] Applications while best suited for lounge chair use, are not limited thereto, and the sunbather misting apparatus of the invention may also comprise chairs having other configurations, including folding or otherwise collapsible chairs.

[0018] In one embodiment a misting apparatus provides a misting spray, where the apparatus comprises a chair made from water resistant materials, and is comprised of a front, a back, a seat, and two inverted U-shaped arms and legs. A small, simple, and compactly dimensioned misting system is connected to the chair so as to be substantially hidden from view. The misting system comprises four nozzles, each of the misting nozzles being connected through said horizontal arms and legs on opposite sides of the chair.

[0019] In a second embodiment, a misting apparatus provides a misting spray, where the apparatus comprises a chair made from water resistant materials, where the chair has a chair bottom, and a chair back. A water misting assembly comprises a water inlet having a coupling; water supply lines from the inlet to marginal positions on the chair; misting spray heads positioned at marginal positions of the chair and fluidly connected to the water supply lines; and a plurality of valves, intermediate the water inlet and the misting spray heads to control spray zones of the chair.

[0020] In yet another embodiment, a misting apparatus provides a misting spray, and comprises a chair made from water resistant materials, where the chair has a chair bottom, a chair back, and a rear base portion, where the chair back is movable between an upright position and a position against the rear base portion. A water misting assembly is assembled to the chair and comprises a water inlet extending through the rear base portion, on a first side of the chair, a water outlet in fluid connection to said water inlet, for providing a jumper connection to an adjacent chair, and extending through the rear base portion, on a second and opposite side of the chair; water supply lines from the inlet to marginal positions on the chair;
and misting spray heads positioned at marginal positions of the chair and fluidly connected to the water supply lines.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] FIG. 1 is a front perspective view of the lounge chair of the present disclosure;
[0022] FIG. 2 is a rear perspective view of the lounge chair of the present disclosure;
[0023] FIG. 3 is a plan view of the plumbing circuit for the chair shown in FIGS. 1 and 2;
[0024] FIG. 4 is a patio view of the invention showing the useful effect of the multiple chair jumper connection with the use of one garden hose;
[0025] FIG. 5 is a rear perspective view of an alternate lounge chair of the present disclosure; and
[0026] FIG. 6 is a plan view of the plumbing circuit for the chair shown in FIG. 5

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0027] FIG. 1 shows a preferred embodiment of a misting lounge chair for sunbathers, the misting lounge chair being shown generally at 2. Although the most preferred embodiment of the present invention comprises a lounge-type chair, use of the lounge chair configurations shown in FIG. 1 is not critical and chairs having other configurations, and those that are collapsible, are also within the contemplation of the present invention as long as they have arms of sufficient dimension to optimally position nozzles for effective use.

[0028] As shown in FIGS. 1 and 2, the misting lounge chair 2 is generally comprised of a lounge chair 4 and a misting spray apparatus 6. With reference first to FIGS. 1 and 2, the lounge chair 4 will be described in greater detail. As shown, the lounge chair 4 is an Adams® Chaise Lounge, although as described herein, the lounge chair is not confined to this specific design.

[0029] Lounge chair 4 has a chair back 10, a chair seat 12, and two side supports 14 and 16 flanking the chair back 10 and chair seat 12. Each of the side supports 14, 16 includes rear feet 20, rear upright 22, and chair arms 26 each having an inverted U-shaped or 90 degree configuration. Side supports 14, 16 further comprise front support portions 28 of each arm positioned approximately at the mid-section of chair seat 12 to be in proximity to the knees of a seated adult sunbather. Side supports 14, 16 include front feet 22 having uprights 30 and 32. Finally, a rear base portion 34 is provided as part of chair 4, having support portions 36 and cross member 38.

[0030] FIG. 1 also shows misting nozzles 40a, 40b, 40c, 40d positioned within the side supports 28 and within the upright portion 30 of the front feet 22. The misters cause a controlled right/left spray of mist with controlled pressure and directed toward the opposite nozzle. More particularly, the chair 4 includes two left side misting nozzles 40a, 40b and two right side misting nozzles 40c, 40d (FIG. 3). In the preferred embodiment, nozzles are cylindrical and have a diameter dimension of approximately W. As shown, nozzles 40a, 40c are mounted directly in the support 28 of the side supports 14, 16, and nozzles 40b, 40d are mounted directly in upright portions 30.

[0031] In addition, FIG. 1 shows a valve control attached to the sides of the lounge chair seat, including left and right valves 44, 46. In the embodiment shown, valves 44 and 46 are manufactured by Legend Valve, as part number BC60PEX.

[0032] The positioning of valves is not critical and can be positioned to either side of the lounge chair 2 as long as it is within convenient reach of a seated individual. Also the shape of the valve control knob is not critical, although in the preferred embodiment valve control knob comprises a symmetrical oval configuration having maximum X and Y dimensions of approximately 1" and 2" respectively. At a minimum, external valve control knob must be adaptable to a human hand so as to be easily rotated thereby.

[0033] Chair back 10 may be moveable from its original upright position into a variety of other positions, to a position against rear base portion 34, and such movement is not critical to the present design, as the seat back and its movement does not interfere with the misting spray apparatus 6. Further, it is contemplated for the positioning of nozzles to be sufficiently recessed within arms or out of harm’s way so as not to prevent the stacking of one misting lounge chair invention upon another as needed to facilitate packaging of the present invention for mass distribution, as well as other purposes.

[0034] It is contemplated in the present invention to have nozzles comprise the type of misting nozzle used for the purpose of spraying weeds, as well as landscaping purposes to water shrubbery and smaller plants. In the embodiment shown, the misting assembly is manufactured by Green L.leaf Incorporated; the cartridge part number is RM34116G, the cap is B3400 and the misters are ST80-01. It should be understood that various misters are available providing different misting capacity, and that multiple misters could be provided with each chair to allow the user to change them out dependent upon the climate, application, etc.

[0035] Although not shown, it is also contemplated for misting lounge chair invention to be used with a waterproof pad or cushion which can in one embodiment be made from closed cell Mylar and display company names and/or logos. Since the components connecting nozzles to the pressurized water source (not shown) are essentially hidden from view, the use of any such a waterproof pad or cushion would not interfere with the operation of the present invention.

[0036] With reference now to FIG. 3, the misting system 6 of the present invention is shown. The misting system 6 includes inlet connection 50 having a female inlet hose connection or coupling, screened to keep the system free from particles that may clog the nozzles while the water is being pushed from a garden hose. This would connect to the end of a typical garden hose. The inlet connection 50 feeds into tubing 52 and then into branch 56, through a Teed connection at 54. A downstream tubing 58 is provided for connecting multiple chairs together. Preferably, tubing 52, 58 is ½" pex pipe. A shut-off valve 60 is inserted in the ½" pex pipe for the purpose of multiple lounge chair use. Tee 54 is preferably a ½"x½" tee reducer connecting tubing 56 which is ¼" pex pipe. A keyed shut-off valve 62 may be provided within tubing 56 for the purpose of rental use at condos, resorts, cruise ships and the like. In the embodiment shown, valves 60 and 62 are PEX ball valves manufactured by Legend Valve, part number 101-594.

[0037] Tubing 56 is then coupled to another tee 70, providing left branch tubing 72 and right branch tubing 74, which then have a 90 degree connection to tubing 76, 78 which in turn connect to left hand and a right hand mist control valves 44, 46. These valves will control the right or left side of the mister and the amount of water pressure the individual
desires. The illustration shows ¾" poly pipe 80, 82 coming off the valves 44, 46 and having nozzles as shown. Nozzles 40a, 40c will be set approximately mid-section and nozzles 40b, 40d will be set at the foot of the lounge chair. All connections are watertight and are contemplated to be either threaded or snap-fit together without bonding agents or adhesives (not shown).

[0038] With reference again to FIG. 2, back view of misting chair 2 shows misting assembly 6 installed to the chair 4. As shown, the hose bibs 50, 90 extend through the support portions 36 and face downwardly to allow the hose connections to be efficiently positioned. As also shown tubing 56, 76 and 78 goes underneath the chair 4, while valves 44, 46 coming through lounge side supports 28. However, it should be appreciated that the support members could be used as "conduit" for the various tubing described herein, or could itself be the tubing. It is also contemplated that the chairs have inverted U-shaped and molded plastic construction, where some or all of the tubing is plumbed within the confines of the U-shaped construction.

[0039] As the outer edge of one misting spray collides against the outer edge of the other misting spray, the force of the collision causes the upwardly thrust droplets of water farthest away from each nozzle to fan out longitudinally over lounge chair for complete coverage of a seated individual sunbather from their head to toe. In the preferred embodiment it is contemplated for misting spray to spread out longitudinally to a maximum length of approximately 5 feet.

[0040] FIG. 4 shows a patio view of multiple lounge chairs. 1-10 loungers can be connected with a shorter length jumper hose 95 (4' to 10') while using 1 garden hose 96 to make the initial connection. Each lounge will have their own multiple shut-off valves for convenience in use at resorts or condominiums with the intent of rental possibility.

[0041] With reference now to FIGS. 5 and 6, an alternate version of the chair is shown. As shown in FIG. 5, this embodiment of the misting chair is shown at 102. In this embodiment, the chair portion is identical to that shown in FIGS. 1 and 2 (with the exception to any modifications for the particulars of the FIGS. 1 and 2 embodiment), and therefore will not be described in detail. The misting spray apparatus is somewhat different and is referred to generally as 106.

[0042] With reference to FIGS. 5 and 6, misting system 106 includes inlet connection 150 extending horizontally through the support portion 36 of rear base 34. This would connect to the male end of a typical garden hose. The inlet connection 150 feeds into tubing 152 and then into branch 156, through a teed connection at 154. A downstream tubing 158 is provided for connecting multiple chairs together. Preferably, tubing 152, 158 is ¾" pex pipe. A shut-off valve 160 is inserted in the ¾" pex pipe for the purpose of multiple lounge chair use. Tee 154 is preferably a ¾"x½" tee reducer connecting to tubing 156 which is ½" pex pipe. A keyed shut-off valve 162 is provided within tubing 156 for the purpose of rental use at Condos and resorts, and the like.

[0043] Tubing 156 is then fed into a control box 170 by way of tubing 172, which in turn is coupled to ½" poly pipe 180, 182 coming off the valves 144, 146 and having nozzles as shown. Nozzles 140a, 140c will be set approximately mid-section and nozzles 140b, 140d will be set at the foot of the lounge chair. All connections are watertight and are contemplated to be either threaded or snap-fit together without bonding agents or adhesives (not shown).

[0044] With reference again to FIG. 5, back view of misting chair 1022 shows misting assembly 106 installed to the chair 4. As shown, the hose bibs 150, 190 extend horizontally through the support portions 36 and face outwardly towards other chairs. As also shown, tubing 156 goes underneath the chair 4, with valves 144, 146 coming outwardly through box 170.

[0045] As described, the chair 2 allows for multiple chair hook-ups to a single garden hose and yet conserving water with selected nozzles as each lounge can operate intermittently all day on less than ½ gallon of water. The nozzles and connecting conduits may be placed within underside recesses in the lounge chair and become substantially hidden from view during use. The loungers are designed with (2) main shut-off valves, also, located in back underneath side, and can and could be shut off with keyed valve for rental purposes. Nozzles are positioned opposite one another to cause mist projected from one nozzle to precisely impact opposing mist so that the sum total of misting fog fans out over the lounger. During windless conditions, the mist will be confined between the sides of the chair and impact and individual between their head and toes.

[0046] Applications, while shown herein as suited for lounge chair use, are not limited thereto, and the present invention may also comprise chairs having other configurations, including folding chairs, deck chairs, etc. The apparatus can also be defined as an aftermarket item added to an existing chair or other device. It is also contemplated that the misting apparatus could be used on products other than chairs; for example, it could be plumbed into a recreational device such as a boat, where the misting apparatus is positioned in or around sun deck chairs integrated into the boat.

[0047] The description herein provides preferred embodiments of the present invention but should not be construed as limiting the scope of the sunbather misting invention. For example, variations in the configuration of the control knob connected to the on/off valve, the type of conduit used to connect the (4) misting nozzles to a water source, the type of on/off valve used, and the configuration of the lounge chair used as long as the front arm supports of the lounge chair are positioned in proximity to a seated sunbathers knees, other than those shown and described herein, maybe incorporated in the present invention. Moreover, it is contemplated that the misters themselves could be placed at other location along the chair, or that each mister is independently controlled to provide a customized spray for each location. Thus the scope of the present invention should be determined by the appended claims and their legal equivalents, rather than the examples given.

What is claimed is:

1. A misting apparatus for providing a misting spray, comprising:
   a chair made from water resistant materials, and comprised of a front, a back, a seat, and two inverted U-shaped arms and legs;
   small, simple, and compactly dimensioned misting system connected to said chair so as to be substantially hidden from view, said misting system comprising at least four nozzles each providing mist and each of said misting nozzles being connected through said horizontal arms and legs on opposite sides of the chair; and
   means to control the spray in at least some of the misting nozzles in relation to the other misting nozzles.
2. The apparatus of claim 1, wherein said chair is selected from a group consisting of non-collapsible lounge chairs and folding lounge chairs.

3. The apparatus of claim 1, wherein said control means comprises, a quarter turn valve connected to the side of said lounger with pressurized water supply, and said valves being contained in a indoor/outdoor box attached to the side of said lounger and within easy reach to a sunbather, said valve also having a control means adapted for easy hand manipulation by the seated sunbather between an open position allowing water flow to said misting nozzles from an off position to a quarter turn full throttle pressure.

4. The apparatus of claim 3, comprising plumbing essentials using a screened inlet hose connector and ¼" and ½" PEX pipe with male outlet for multiple lounge connection using keyed shut-off valves and ½" poly pipe going to 4 misting nozzles.

5. The apparatus of claim 4, wherein said connections of multiple loungers would have the availability to run intermittently all day long with approximately ½ gallon of water used on each lounger.

6. The apparatus of claim 1, wherein said chair has a stackable design and each of said misting nozzles is positioned for stacking purposes and secured closely to said chair so as to allow compact storage of said apparatus with minimal risk of damage to said spray nozzles and said insulated control box with valves and said keyed valves during storage, preparation for storage, and preparation after storage for subsequent use.

7. The apparatus of claim 1, wherein said chair is manufactured as a two piece unit through molded construction with the back of the said chair to attach and manufactured through same molded construction.

8. A misting apparatus for providing a misting spray, comprising:
   a chair made from water resistant materials, said chair having a chair bottom, and chair back; and
   a water misting assembly comprising:
   a water inlet having a coupling;
   water supply lines from the inlet to marginal positions on the chair;
   misting spray heads positioned at marginal positions of the chair and fluidly connected to the water supply lines; and
   a plurality of valves, intermediate the water inlet and the misting spray heads to control spray zones of the chair.

9. The apparatus of claim 8, wherein said spray zones are right and left.

10. The apparatus of claim 8, wherein said spray zones are front and back.

11. The apparatus of claim 8, wherein said chair further comprises two inverted U-shaped arms and legs flanking the chair bottom and chair back.

12. The apparatus of claim 11, wherein said misting spray heads are integrally positioned in the two inverted U-shaped arms and legs.

13. The apparatus of claim 12, wherein said valves are integrally positioned in the two inverted U-shaped arms and legs.

14. The apparatus of claim 8, further comprising a water outlet in fluid connection to said water inlet, for providing a jumper connection to an adjacent chair.

15. A misting apparatus for providing a misting spray, comprising:
   a chair made from water resistant materials, said chair having a chair bottom, a chair back, and a rear base portion, where the chair back is movable between an upright position and a position against the rear base portion; and
   a water misting assembly assembled to the chair and comprising:
   a water inlet extending through the rear base portion, on a first side of the chair;
   a water outlet in fluid connection to said water inlet, for providing a jumper connection to an adjacent chair, and extending through the rear base portion, on a second and opposite side of the chair;
   water supply lines from the inlet to marginal positions on the chair; and
   misting spray heads positioned at marginal positions of the chair and fluidly connected to the water supply lines.

16. The apparatus of claim 15, further comprising a plurality of valves, intermediate the water inlet and the misting spray heads to control spray zones of the chair.

17. The apparatus of claim 15, wherein said spray zones are right and left.

18. The apparatus of claim 15, wherein said chair further comprises two inverted U-shaped arms and legs flanking the chair bottom and chair back.

19. The apparatus of claim 18, wherein said misting spray heads are integrally positioned in the two inverted U-shaped arms and legs.

20. The apparatus of claim 19, wherein said valves are integrally positioned in the two inverted U-shaped arms and legs.