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(54) **PERSONAL COOLING DEVICE**

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**ABSTRACT**

A personal cooling device that is constructed to resemble an ornamental necklace wherein the personal cooling device is operable to provide heat relief to a user. The personal cooling device includes a ring shaped body that is hollow having a first end and a second end. Operably coupled to the body intermediate the first end and the second end is a power unit. The power unit includes a fan assembly mounted therein that has a turbine style fan. The fan assembly is suspendedly mounted within the interior volume of the power unit via a plurality of support members. One of the plurality of support members includes an air intake passage formed therein that is operable to provide air to the fan assembly. The body further includes two parallel rows of apertures extending the length of the body that facilitate the distribution of an air stream to a user.

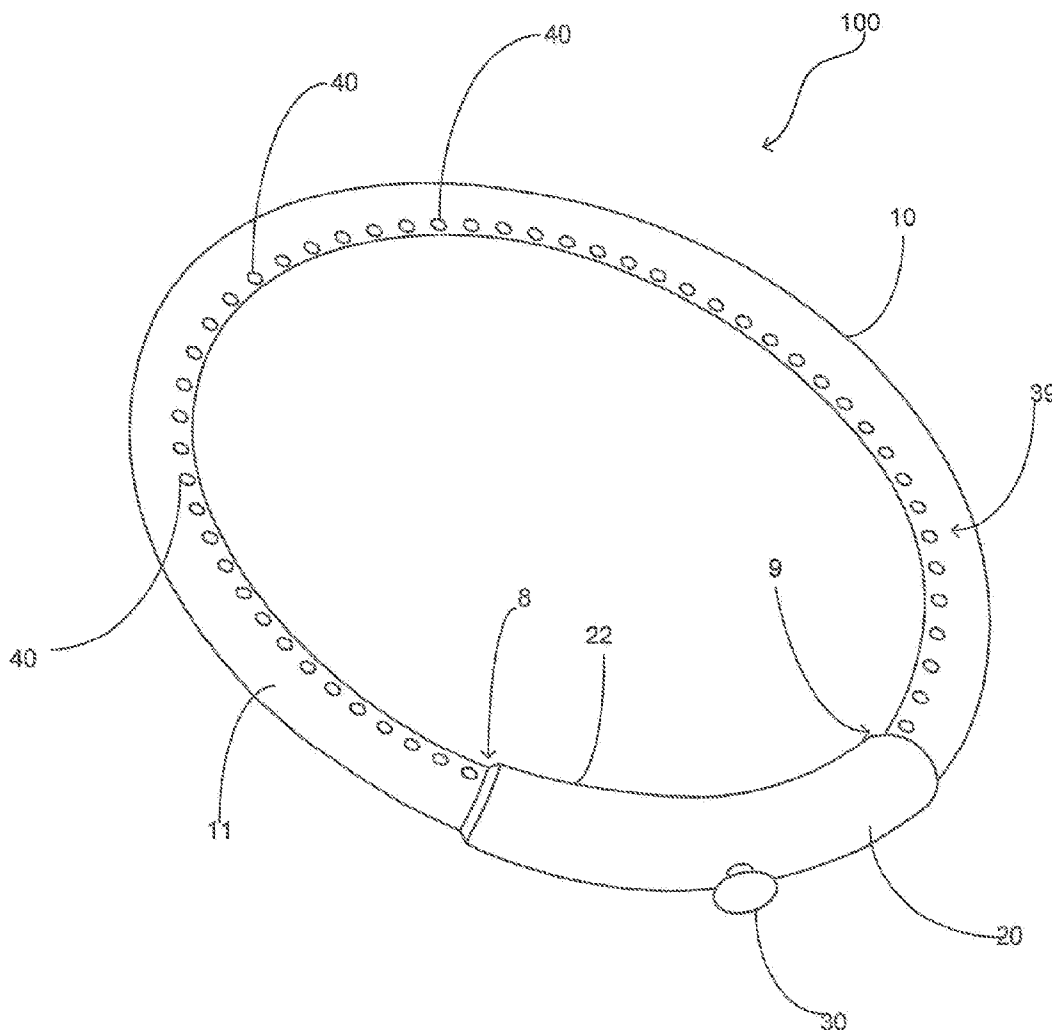
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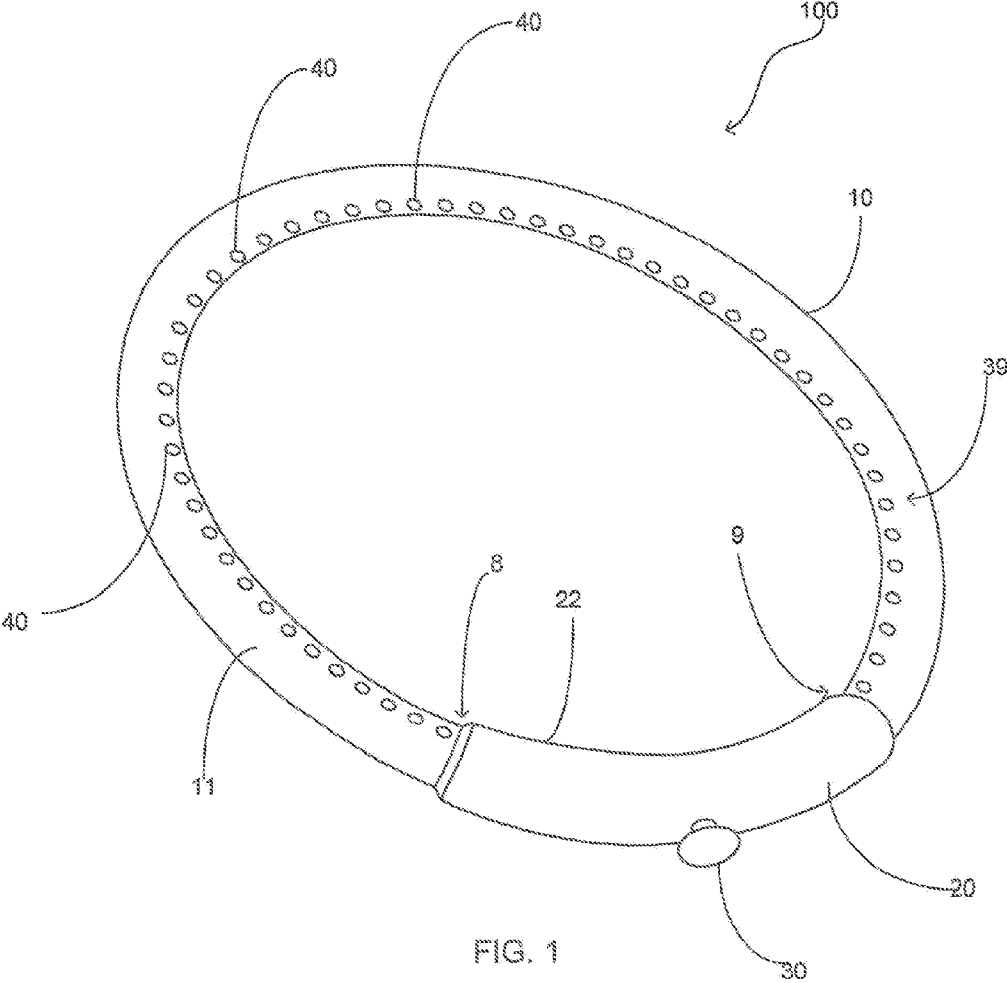
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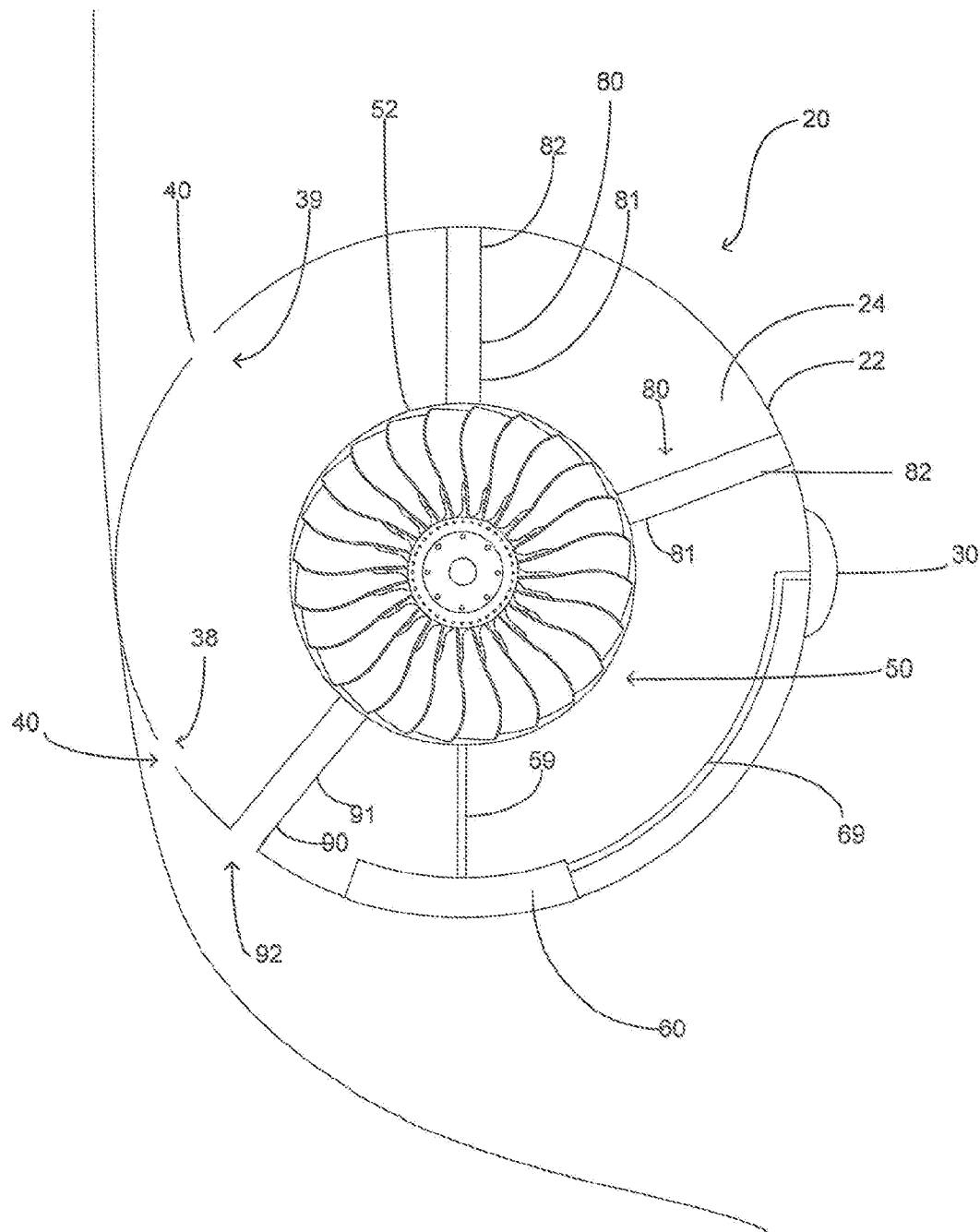


FIG. 2

**PERSONAL COOLING DEVICE**

**FIELD OF THE INVENTION**

[0001] The present invention relates generally to cooling devices, more specifically but not by way of limitation, a personal cooling device that is worn on a user wherein the device provides a continuous stream of air that is operable to provide relief to a user.

**BACKGROUND**

[0002] Millions of individual live in climates where arm temperatures are present at least six months of the year. These people seek relief from the heat using items such as fans and air conditioners. Additionally, people will seek refuge from the heat by involving themselves in various activities such as but not limited to swimming. In addition to the climate, many individuals experience uncomfortable warmth as part of various medical conditions. By way of example but not limitation, as women enter and begin to experience menopause it is very common for these women to experience hot flashes. Hot flashes are short durations of time wherein the women’s body temperature increases and the women may feel a rapid heart-beat and sweating. These symptoms are very common for women experiencing menopause and they often seek relief using various items such as cool wet cloths or seek an air-conditioned building.

[0003] One problem with existing methods of relief from either heat or symptoms such as the aforementioned is that these methods may or may not be readily available. It may not be possible for a person seeking relief to find either an air conditioned facility or that person may not have within their disposal an item such as a wet cloth that can be used to provide relief. Additional conventional items such as cooling sprays and the like can have undesirable effects such as dampening hair and have a negative impact on facial makeup.

[0004] Accordingly, there is a need for a personal cooling device that is disguised as ornamental jewelry that is operable to provide relief from heat symptoms to a user.

**SUMMARY OF THE INVENTION**

[0005] It is the object of the present invention to provide a personal cooling device operable to provide relief from heat and/or heat like symptoms wherein the personal cooling device is worn as ornamental jewelry.

[0006] Another object of the present invention is to provide a personal cooling device constructed to appear as ornamental jewelry such as but not limited to a necklace, wherein the personal cooling device includes a cylindrical hollow body having a decorative exterior surface.

[0007] A further object of the present invention is to provide a personal cooling device that is constructed to appear as an ornamental piece of jewelry wherein the personal cooling device has disposed therein a miniature turbine style fan.

[0008] Yet another object of the present invention is to provide a personal cooling device resembling an ornamental necklace having a hollow cylindrical body that includes a plurality of apertures journaled through the body.

[0009] Still a further object of the present invention is to provide a personal cooling device that is manufactured to appear as an ornamental necklace that further includes a power supply disposed within the hollow cylindrical body.

[0010] An additional object of the present invention is to provide a personal cooling device that is operable to provide

relief from heat or other heat-like symptoms wherein the personal cooling device is manufactured to appear as ornamental jewelry wherein the plurality of apertures are journal substantially around the entire body of the device so as to distribute an airstream to a user.

[0011] A further object of the present invention is to provide a personal cooling device that is operable to provide a cooling air supply to a user wherein the personal cooling device is constructed to appear as ornamental jewelry that includes a replaceable power supply.

[0012] To the accomplishment of the above and related objects the present invention may be embodied in the form illustrated in the accompanying drawings. Attention is called to the fact that the drawings are illustrative only. Variations are contemplated as being a part of the present invention, limited only by the scope of the claims.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0013] A more complete understanding of the present invention may be had by reference to the following Detailed Description and appended claims when taken in conjunction with the accompanying Drawings wherein:

[0014] FIG. 1 is a perspective view of an embodiment of the present invention; and

[0015] FIG. 2 is a cross-sectional view of the power unit of the present invention.

**DETAILED DESCRIPTION**

[0016] Referring now to the drawings submitted herewith, wherein various elements depicted therein are not necessarily drawn to scale and wherein through the views and figures like elements are referenced with identical reference numerals, there is illustrated a personal cooling device **100** constructed according to the principles of the present invention.

[0017] An embodiment of the present invention is discussed herein with reference to the figures submitted herewith. Those skilled in the art will understand that the detailed description herein with respect to these figures is for explanatory purposes and that it is contemplated within the scope of the present invention that alternative embodiments are plausible. By way of example but not by way of limitation, those having skill in the art in light of the present teachings of the present invention will recognize a plurality of alternate and suitable approaches dependent upon the needs of the particular application to implement the functionality of any given detail described herein, beyond that of the particular implementation choices in the embodiment described herein. Various modifications and embodiments are within the scope of the present invention.

[0018] It is to be further understood that the present invention is not limited to the particular methodology, materials, uses and applications described herein, as these may vary. Furthermore, it is also to be understood that the terminology used herein is used for the purpose of describing particular embodiments only, and is not intended to limit the scope of the present invention. It must be noted that as used herein and in the claims, the singular forms “a”, “an” and “the” include the plural reference unless the context clearly dictates otherwise. Thus, for example, a reference to “an element” is a reference to one or more elements and includes equivalents thereof known to those skilled in the art. All conjunctions used are to be understood in the most inclusive sense possible. Thus, the word “or” should be understood as having the

definition of a logical “or” rather than that of a logical “exclusive or” unless the context clearly necessitates otherwise. Structures described herein are to be understood also to refer to functional equivalents of such structures. Language that may be construed to express approximation should be so understood unless the context clearly dictates otherwise.

[0019] References to “one embodiment”, “an embodiment”, “exemplary embodiments”, and the like may indicate that the embodiment(s) of the invention so described may include a particular feature, structure or characteristic, but not every embodiment necessarily includes the particular feature, structure or characteristic.

[0020] Referring in particular to FIG. 1 herein, the personal cooling device 100 includes a body 10 that is ring-shaped and is manufactured from a durable material such as but not limited to metal or plastic. The body 10 in its preferred embodiment is manufactured having a sufficient diameter so as to be worn by a user as a choker-style necklace. The body 10 is substantially hollow so as to allow an air stream to pass therethrough as further discusses herein. It is contemplated within the scope of the present invention that the body 10 may be manufactured so as to be rigid or that a material may be used that provides some flexibility. Those skilled in the art will recognize that numerous materials could be utilized to manufacture the body 10. The body 10 has an exterior surface 11. It is contemplated within the scope of the present invention that the exterior surface 11 of the body 10 is ornamental in order to at least partially conceal the apertures 40. It is further contemplated within the scope of the present invention that the exterior surface could be encrusted with numerous types of jewelry stones and/or be decorated using a coating.

[0021] Releasably secured to the body 10 is the power unit 20. The power unit 20 is releasably secured to end 8 and end 9 of the body 10 utilizing suitable durable techniques. The power unit 20 houses the components further discussed herein that are operable to provide a stream of air egressing from the plurality of apertures 40 in order to provide cooling relief to a wearer of the personal cooling device 100. The power unit 20 includes outer housing 22 that is manufactured from a suitable durable material such as but not limited to plastic or metal. The power unit 20 is substantially hollow having interior volume 24 and further being tubular in shape. It is contemplated within the scope of the present invention that the power unit 20 could be formed in numerous different shapes and sizes. Operably coupled to the power unit 20 is power button 30. The power button 30 provides an interface for the user to activate and/or deactivate the personal cooling device 100. The power button 30 is centrally mounted on the power unit 30 and its centralized mounting location is desired as the power button 30 is designed in the preferred embodiment to be encrusted with an ornamental stone or to be ornamental in appearance. This design conceals the power button 30 from its functional use and provides a visual focal point of ornamentality.

[0022] Referring in particular to FIG. 2, a cross sectional view of the power unit 20 is illustrated therein shown being adjacent a portion of a human neck 99. Disposed within the interior volume 24 is a fan assembly 50. The fan assembly 50 is operably coupled to power supply 60 via wire 59. Further the power supply 60 is operably coupled to power button 30 via wire 69. The fan assembly 50 includes a housing 52 manufactured from a suitable durable material such as but not limited to plastic. Rotatably mounted within the housing 52 is

a fan blade 54. The fan blade 54 is a conventional turbine style fan blade that is operable to produce a forced air stream. The air stream produced by the fan assembly 50 is directed into the hollow passage of body 10 and ultimately egresses outward from the body 10 via the plurality of apertures 40. The air stream egressing from the apertures 40 serves to provide some relief to a user from the symptoms of heat. The fan assembly 50 is suspendedly mounted within the power unit 20 via support members 80. The support members 80 include first end 81 and second end 82 and are manufactured from a durable rigid material such as but not limited to metal.

[0023] The support members 80 are secured to the interior of the body 10 and the housing 52 utilizing suitable durable techniques. While in the illustrated embodiment three support members 80 are illustrated, it is contemplated within the scope of the present invention that any number of support members 80 could be utilized to suspendedly mount the fan assembly 50. The suspended mounting technique as disclosed herein is optimal as it provides for the improved generation of an air stream to be forced in the interior volume of the body 10. Support member 90 is constructed having air intake passage 91 with opening 92. Support member 90 in addition to functioning to suspendedly mount the fan assembly 50 is further operable to provide an air intake via air intake passage 91. Support member 90 provides the necessary air input for the fan assembly to produce an air stream to be distributed into the body 10. While only one support member 90 is illustrated herein, it is contemplated within the scope of the present invention that the personal cooling device 100 could be constructed having more than one support member 90 that includes an air intake passage 91.

[0024] As shown in particular in FIG. 2, it is contemplated within the scope of the present invention that the personal cooling device 100 includes an upper row 39 and lower row 38 of apertures 40. The positioning of the upper row 39 and lower row 38 are such that the apertures 40 are generally obscured from a person standing adjacent to a wearer of the personal cooling device 100 and further as shown in FIG. 2, the upper row 39 and lower row 38 are positioned such that when the personal cooling device is adjacent a human neck 99, the apertures 40 deliver air at an upwards angle from the upper row 39 and a downwards angle from the lower row 38. While an upper row 39 and a lower row 38 are illustrated herein in the preferred embodiment, it is contemplated within the scope of the present invention that the personal cooling device 100 could have a single row of apertures 40 or more than two rows of apertures 40. Additionally, while a choker-style necklace is the preferred embodiment of the present invention, it is contemplated within the scope of the present invention that the personal cooling device 100 could be constructed as a bracelet or an anklet.

[0025] In the preceding detailed description, reference has been made to the accompanying drawings that form a part hereof, and in which are shown by way of illustration specific embodiments in which the invention may be practiced. These embodiments, and certain variants thereof, have been described in sufficient detail to enable those skilled in the art to practice the invention. It is to be understood that other suitable embodiments may be utilized and that logical changes may be made without departing from the spirit or scope of the invention. The description may omit certain information known to those skilled in the art. The preceding detailed description is, therefore, not intended to be limited to the specific forms set forth herein, but on the contrary, it is

intended to cover such alternatives, modifications, and equivalents, as can be reasonably included within the spirit and scope of the appended claims.

What is claimed is:

1. A personal cooling device comprising:
  - a body, said body having a housing that is ring-shaped, said housing being hollow having an interior volume;
  - a power unit, said power unit coupled to said body, said power unit having a housing and being substantially hollow, said power unit further including a fan assembly disposed therein, said fan assembly operable to generate a stream of air and distribute into said body;
  - at least two support members, said at least two support members being operably coupled to the housing of said power unit and said fan assembly, said at least two support members operable to suspendedly mount said fan assembly within said power unit; and
  - wherein said body further includes a plurality of apertures operable to have air egress therefrom.
2. The personal cooling device as recited in claim 1, wherein one of said at least two support members further includes an air intake passage, said air intake passage operable to supply air to said fan assembly.
3. The personal cooling device as recited in claim 2, and further including a power supply, said power supply being mounted within said power unit, said power supply operably coupled to said fan assembly.
4. The personal cooling device as recited in claim 3, and further including a power button, said power button operably coupled to said fan assembly, said power button having an exterior surface that is ornamental in appearance.
5. The personal cooling device as recited in claim 4, wherein said body further includes an exterior surface, said exterior surface being ornamental in appearance.
6. The personal cooling device as recited in claim 5, wherein said plurality of apertures are distributed in two rows along said body, said two rows being parallel to each other.
7. The personal cooling device as recited in claim 6, wherein the personal cooling device is manufactured in the form selected from a group of one of the following: necklace or bracelet.
8. A personal cooling device operable to be worn as costume jewelry comprising:
  - a body, said body having a housing that is ring-shaped, said body being substantially hollow, said body having a first end and a second end, said housing having an interior surface and an exterior surface;
  - a power unit, said power unit coupled to said body intermediate said first end and said second end, said power unit being substantially hollow having an interior volume, said power unit further having a fan assembly suspendedly mounted therein, said fan assembly operable to provide an air flow to said body;
  - a plurality of support members, said plurality of support members having a first end and a second end, said plurality of support members operable to suspendedly mount the fan assembly within the interior volume of the power unit; and
  - a first row of apertures, said first row of apertures being journaled through the housing of said body, said at least one row of apertures extending around the entire length of said body.
9. The personal cooling device as recited in claim 8, and further including an air intake passage, said air intake passage

being formed in one of said plurality of support members, said air intake passage operable to provide air input to said fan assembly.

10. The personal cooling device as recited in claim 9, wherein said power unit further includes a power button, said power button being centrally mounted to said power unit, said power button operably coupled to said fan assembly, said power button further configured with an ornamental exterior surface.

11. The personal cooling device as recited in claim 10, and further including a power supply, said power supply being mounted within said power unit, said power supply operably coupled to said fan assembly.

12. The personal cooling device as recited in claim 11, wherein the exterior surface of said body is configured to have an ornamental appearance.

13. The personal cooling device as recited in claim 12, and further including a second row of apertures, said second row of apertures being parallel to said first row of apertures, said second row of apertures extending the length of said body.

14. The personal cooling device as recited in claim 13, wherein the personal cooling device is manufactured in the form selected from a group of one of the following: necklace or bracelet.

15. A personal cooling device constructed to resemble a choker-style ornamental necklace wherein the personal cooling device functions to provide heat relief to the wearer comprising:

- a body, said body having a housing that is ring-shaped, said body being substantially hollow having an interior volume, said body having a first end and a second end, said housing having an interior surface and an exterior surface;
- a power unit, said power unit coupled to said body intermediate said first end and said second end, said power unit being substantially hollow having an interior volume, said power unit further having a fan assembly suspendedly mounted therein, said fan assembly including a housing and a turbine style fan blade, said fan assembly operable to provide an air flow to said body;
- a plurality of support members, said plurality of support members having a first end and a second end, said plurality of support members being rectangular in shape, said plurality of support members operable to suspendedly mount the fan assembly within the interior volume of the power unit;
- a first row of apertures, said at least one row of apertures being journaled through the housing of said body, said at least one row of apertures extending around the entire length of said body;
- a second row of apertures, said second row of apertures being journaled through the housing of said body, said second row of apertures being parallel to said first row of apertures, said second row of apertures extending around the entire length of said body.

16. The personal cooling device as recited in claim 15, and further including an air intake passage, said air intake passage being formed in one of said plurality of support members, said air intake passage operable to provide air input to said fan assembly.

17. The personal cooling device as recited in claim 16, wherein said power unit further includes a power button, said power button being centrally mounted to said power unit, said

power button operably coupled to said fan assembly, said power button further configured with an ornamental exterior surface.

**18.** The personal cooling device as recited in claim **17**, wherein the fan assembly is mounted such that the center of the fan assembly is in the center of the interior volume of the power unit.

**19.** The personal cooling device as recited in claim **18**, and further including a power supply, said power supply being mounted within said power unit, said power supply operably coupled to said fan assembly.

**20.** The personal cooling device as recited in claim **19**, wherein the personal cooling device is manufactured in the form selected from a group of one of the following: necklace or bracelet.

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