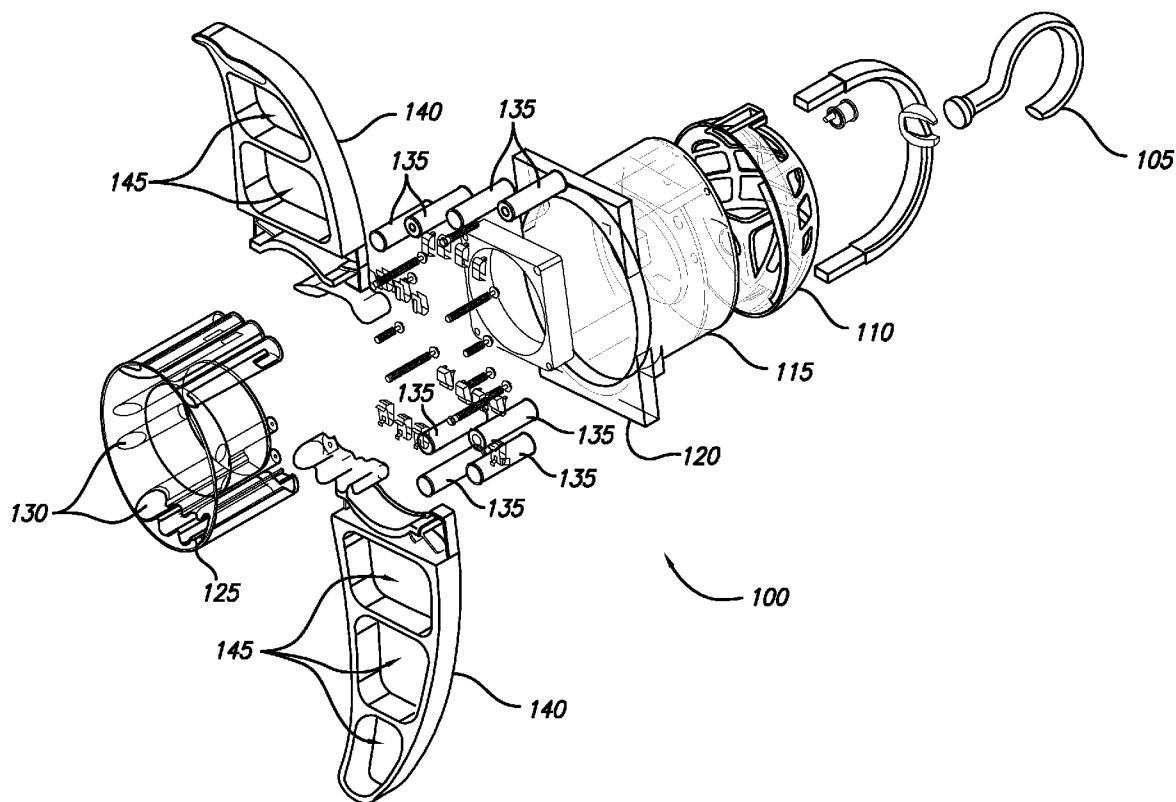




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(19) **United States**(12) **Patent Application Publication****Clopton et al.**(10) **Pub. No.: US 2007/0164062 A1**(43) **Pub. Date: Jul. 19, 2007**(54) **GARMENT HANGER INCORPORATING
GARMENT DRYING SYSTEM****Publication Classification**(51) **Int. Cl.**
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LOS ANGELES, CA 90049(21) Appl. No.: **11/624,208**(22) Filed: **Jan. 17, 2007****Related U.S. Application Data**(60) Provisional application No. 60/759,491, filed on Jan.
17, 2006.(57) **ABSTRACT**

Various embodiments of the invention disclose a garment hanging system that incorporates a garment drying system. The garment hanging system features a fan mechanism that generates an air stream that dries garments as they are suspended from the garments hanging system. The garment hanging system features a duct that is configured such that the collar portions of garments suspended from the garment hanging system may be sealed to the duct in order to receive air propelled by the fan mechanism of the garment hanging system.



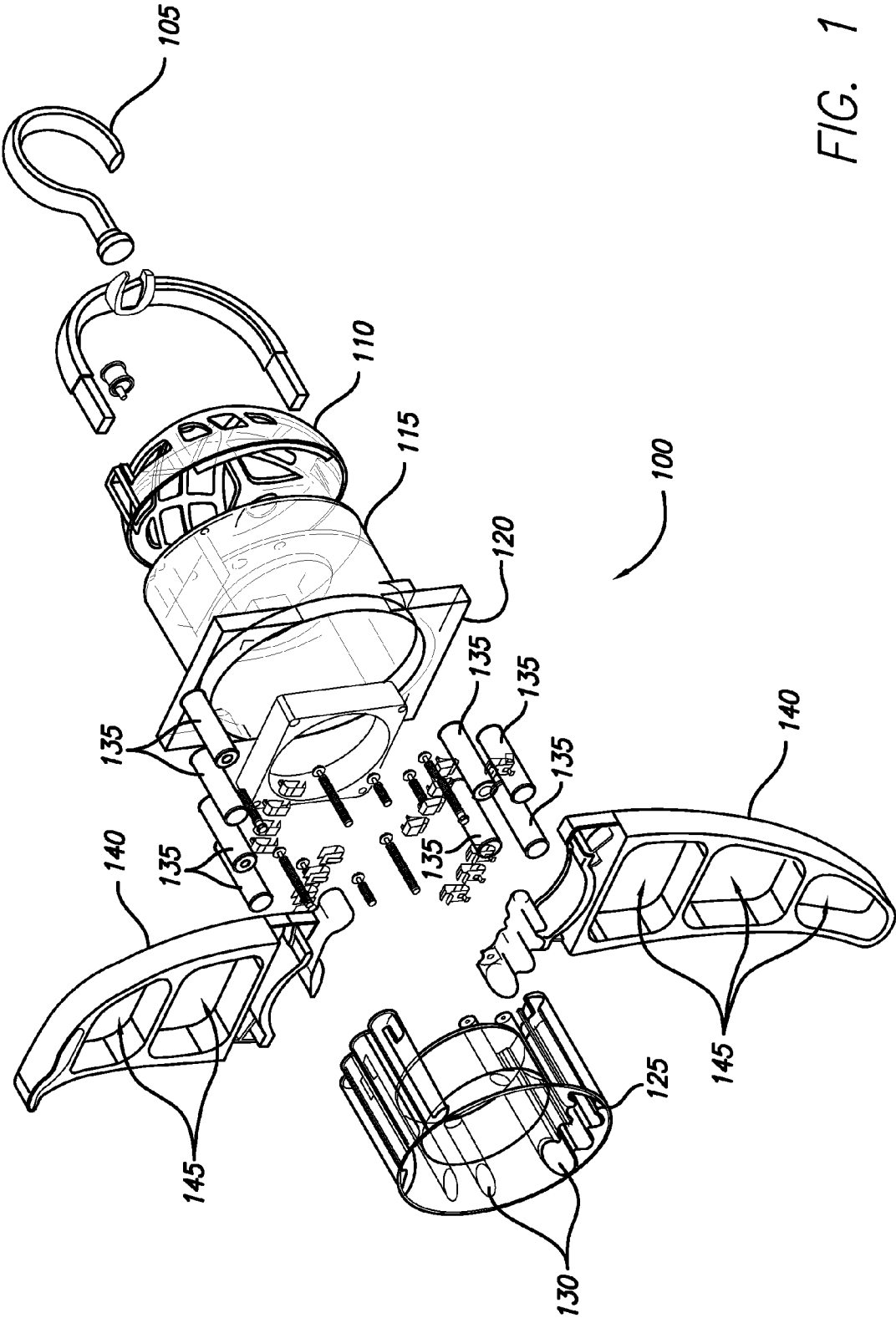


FIG. 1

GARMENT HANGER INCORPORATING GARMENT DRYING SYSTEM

RELATED PATENT APPLICATIONS

[0001] This patent application claims priority to and incorporates by reference to U.S. Provisional Patent Application No. 60/759,491 filed on Jan. 17, 2006 by John Clopton and Brock Mayeux.

FIELD OF INVENTION

[0002] Various embodiments of this invention relate, generally, to garment hangers, more particularly, to garment hangers that incorporate a garment drying system.

BACKGROUND

[0003] Garment hangers have been used for centuries as a means for suspending garments and maintaining their position through a device that is shaped similarly to a human shoulder. As a matter of fact, some historians believe that President Thomas Jefferson invented the wooden clothes hanger. However, today's most used garment hanger, the wire hanger, finds its origins in U.S. Pat. No. 85,756 to North. North discloses the familiar shoulder shaped wire hanger that is used to maintain a garment's shape and position.

[0004] Garment hangers that facilitate improved storage and care of garments by incorporating drying means into the hanger have also been developed. U.S. Pat. No. 1,833,631 to Wilsey, for example, discloses a clothing hanger with a fan mounted over the clothing that blows air through an aperture and over the clothing. Wilsey's hanger features a heating element, in order to warm the air before it is passed over the garment and an enclosure in order to trap the air as it is passed over the garment. The use of an additional enclosure in order to trap the air generated by the fan makes it undesirable because it makes Wilsey's device large and unwieldy.

[0005] Another drying coat hanger for garments is disclosed by U.S. Pat. No. 4,592,497 to Georges. Georges' device comprises a clothing hanger featuring a hollow duct that is adapted to attach a blow dryer. The blow dryer generates forced or heated air that is channeled through the duct and onto the garments that are suspended from the hanger. The need for additional appliances, such as a blow dryer, in order to dry clothing with Georges' device, however, is undesirable. Also, because Georges' device does not feature webbed shoulder areas, the shoulder portions of the garment will not be dried to the same degree as other portions of the clothing.

[0006] Another such device is disclosed by U.S. Pat. No. 6,516,536 to Ryden. Ryden's device discloses an apparatus for drying garments that comprises a garment hanger with a blower that directs air through a plurality of conduits. The plurality of conduits, in turn, passes through the garment and distributes blown air throughout the garment in order to dry the garment. The required conduits to capture and pass the air, however, are undesirable because they make Ryden's device large and unwieldy.

[0007] Another device for drying garments while suspended is disclosed by U.S. Pat. No. 5,862,606 to Jannach. Jannach's invention relates to a device for drying garments, such as protective suits, by placing them over a supportive framework, which consists of branches of tubes that extend

into the extremities of the garment. Unlike the above garment drying devices, in Jannach's invention, the fan mechanism is situated at the base of the garment stand. Jannach's system, however, is undesirable because of the size and girth of the device, which makes it large and unwieldy.

[0008] Another device, adapted toward drying sports uniforms and other such garments is disclosed by U.S. Patent Application No. 2003/0222038 by Collier. Collier's device discloses a storage rack for sports equipment that features a network of ducts, which supply air to separate pieces of sports equipment.

[0009] Other devices, such as U.S. Patent Application No. 2005/0120757 by Jackson and U.S. Patent Nos. 2,850,810 and 2,705,377 to Lyons et al. and Konstandt, respectively, disclose garment drying devices that use a shrouding enclosure in order to trap air pressurized by the fan. The requirement of a shrouding enclosure in these devices, however, is undesirable because of the components that are needed.

[0010] While the above devices disclose several alternative means for drying garments while suspended, they remain undesirable for various reasons. First, the devices that feature shrouding enclosures are undesirable because of the additional components that they require. It is thus desirable that a garment drying and hanging device use the garment itself as a shrouding enclosure. Second, other related art devices are bulky and not easily transportable. Thus, it is desirable that a garment drying and hanging device be configured to be relatively light and transportable. Third, many of these devices require a plurality of ducts in order to distribute pressured air throughout the garment. These ducts are likewise undesirable because they require additional components and make the system bulky and unwieldy. In summary, there remains a long felt need in the art for a garment hanging and drying device that is easily transportable, does not require a shrouding enclosure, and does not require a duct network in order to distribute air over the garment.

SUMMARY OF THE INVENTION

[0011] Various embodiments of the invention are directed toward overcoming the above shortcomings by disclosing a clothing hanging device that incorporates a fan and is configured such that additional appurtenances, such as shrouding enclosures or ductwork, are not required in order to distribute pressurized air throughout the garment.

[0012] Various embodiments of the invention feature a hook mechanism, in order to suspend the garment hanger system from a closet bar, rail, or similar such device. In various embodiments of the invention, the hook is re-attachable to the body of the garment hanger system. In order embodiments, the hook is integral to the garment hanger system.

[0013] Various embodiments of the invention feature a duct body, located below the hook at approximately the collar area of the garment hanger system. The hollow duct body is configured in order to perform various functions in for the invention. First, the duct body serves as the central structure to which other components of the garment hanger system are attached. Second, the duct body features a circular or elliptical shape, approximating the shape of a human neck. The circular or elliptically shaped duct body performs an important function because garments are attached to the outer surface of the circular or elliptically shaped duct body. The duct body features a proximal end

and a distal end, each of which are open and expose the hollow interior of the duct body. The proximal end of the duct body serves as an intake for pressurized air into the duct body. The distal end of the duct body serves as an exhaust, through which pressurized air is forced out of the duct body.

[0014] The duct body of various embodiments of the invention performs an important function by serving as a conduit for channeling pressurized air. As discussed above, the related art systems require shrouding enclosures and/or ducting networks in order to distribute the pressurized air. On the other hand, various embodiments of the garment hanger system do not require these additional appurtenances. Various embodiments of the garment hanger feature a circular or elliptically shaped exterior surface, in order that the collars of garments may attach and seal to the surface of the duct body. By allowing the collar area of a garment to seal against the duct body, the garment itself performs the function of a duct or shrouding body. Thus, as the fan forces air out of the duct body, a pressurized condition is created within the garment.

[0015] The exterior shape of the duct body in various embodiments of the invention, as discussed above, performs an important function in the drying process because it is configured in order to facilitate a seal with the collar area of garments attached to the garment hanger system. In this manner, the air that is blown from the distal end of the duct body enters the garment body. Because of the seal created between the duct body and the garment, the garment itself serves as a conduit for distributing air throughout the garment. Thus, the garment hanger system's unique configuration of duct body facilitates an important improvement on related art systems, which require additional ducts or shrouding enclosures in order to perform air distribution functions.

[0016] This configuration of duct body is particularly useful in drying water protective suits, such as wet suits and dry suits. The collar of the wet suit or dry suit is often made from an elastic material, in order to form a tight connection with the wearer's collar. Likewise, these garments form a tight seal with the exterior of the duct body, thus serving to channel air from the duct body into the garment.

[0017] The duct body also serves as a central structure onto which other electronic components of the garment drying system attach. First, at the hollow interior of the duct body, the duct body may feature one or more fans, configured to blow air towards the distal end of the duct body. Second, the duct body may serve as a storage area for batteries used to power the fan. Finally, the duct body may house other electronic components such as switches, wiring, microprocessors, and other such electronic components.

[0018] The duct body also serves as central structure onto which other components of the garment hanger system attach. In various embodiments of the invention, two shoulder props are attached to the duct body and cantilever laterally outward from the distal portion of the duct body. The shoulder props feature a webbed configuration, with a plurality of openings, such that air may permeate the garment and dry the shoulder portions of the garment.

[0019] In various embodiments of the invention, the shoulder props further create a chest shaped structure, which is configured to support the chest portion of the garments.

[0020] In various embodiments of the invention, the shoulder props may be re-attachable, such that the user may

remove the shoulder props for easy storage of the garment hanger system in a minimum of space.

[0021] In various embodiments of the invention, the shoulder props in the garment hanger system are configured to be hollow, perforated, and allow the passage of air. The shoulder props are connected to the distal portion of the duct body such that pressurized air is channeled to enter the hollow portion of the shoulder props. As pressurized air enters and is passed through the shoulder props, the air exits through the plurality of perforations and aerates and dries the portions of the garment adjacent to the shoulder props. In this manner, the hollow shoulder props facilitate the distribution of air throughout the garment.

[0022] It should be noted that the various embodiments of the invention may be constructed from any of the various materials and using any of the various components known in the art for hanger and blower construction. Various embodiments of the invention may, for example, use varying plastics, metals, synthetic materials, and other such materials for the construction of the duct body and shoulder props. Additionally, the invention may feature any of the various fans or blowers known in the art for generating forced air streams. Various embodiments of the invention may feature additional electronic programs and/or controls including but not limited to, timers.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] FIG. 1 is an exploded illustration in perspective view of one embodiment of the invention, illustrating many of the components of the invention.

DETAILED DESCRIPTION OF THE DRAWINGS

[0024] In the following detailed description of various embodiments of the invention, numerous specific details are set forth in order to provide a thorough understanding of various aspects of one or more embodiments of the invention. However, one or more embodiments of the invention may be practiced without these specific details. In other instances, well-known methods, procedures, and/or components have not been described in detail so as not to unnecessarily obscure aspects of embodiments of the invention.

[0025] While multiple embodiments are disclosed, still other embodiments of the present invention will become apparent to those skilled in the art from the following detailed description, which shows and describes illustrative embodiments of the invention. As will be realized, the invention is capable of modifications in various obvious aspects, all without departing from the spirit and scope of the present invention. Accordingly, the drawings and detailed description are to be regarded as illustrative in nature and not restrictive. Also, the reference or non-reference to a particular embodiment of the invention shall not be interpreted to limit the scope of the invention.

[0026] In the following description, certain terminology is used to describe certain features of one or more embodiments of the invention. For instance, "hanger" refers to any of various shoulder-shaped frames with a hook at the top for draping and hanging a garment when not in use; "fan" refers to any device for producing a current of air by the movement of a broad surface or a number of such surfaces, or further such air blowing equipment known in the art; and "garment" refers to any outfit, attire, apparel, garb, dress, costume, uniform, including but not limited to wet suits and dry suits.

[0027] FIG. 1 is an exploded illustration in perspective view of one embodiment of the invention, illustrating many of the components of the invention. A garment hanging system 100 is illustrated along with its component parts, including: a hook 105, an air intake shroud 110, the duct body 115, the fan 120 (fan-blades are not illustrated for clarity), the battery housing 125, the battery holders 130, the batteries 135, the shoulder props 140, and the shoulder prop openings 145. In various embodiments of the invention, the hook 105 and shoulder props 140 are configured to be re-attachable, such that the garment hanging system 100 may be disassembled for convenient storage in a minimum of space.

[0028] The hook 105, in various embodiments of the invention, serves to suspend the garment hanging system 100, from a closet bar or similar such device. The air intake shroud 110 serves to cover the proximal end of the duct body 115 or air intake and prevent the insertion of objects into the fan 120. The duct body 115 serves as a central structure for attaching many of the components of the garment hanging system 100. It should be noted that the elliptical shape of the duct body 115 allows for the secure connection of the duct body 115 to the collars of various garments. In this manner, the garments may serve as conduits for passing the air blown by the fan 120.

[0029] The fan 120 is attached to the interior surface of the duct body 115 and serves to force air from the proximal end of the duct body 115 to the distal end of the duct body 115 and the inside of garments attached to the garment hanging system 110. The battery housing 125 attaches to the duct body 115 and features several battery holders 130, which hold the batteries 135 that power the garment hanging system 100. The re-attachable shoulder props 140 serve to suspend the shoulder portions of garments suspended by the garment hanger system 100. The shoulder prop openings 145 allow air propelled within the garment to dry the shoulder areas of the garments suspended on the garment hanger system 100.

What is claimed is:

1. A garment hanger system incorporating a drying system, comprising:

a hook device, said hook device configured to attach to said garment hanger system incorporating drying system to a bar or rail,

a duct body, said duct body serving as a central structure for said garment hanger system incorporating a drying system, attached to said hook device, and being shaped as a hollow cylinder such that the exterior surface of said duct body may be attached to the collar of garments to create a seal between said duct body and said collar of garments,

said duct body further featuring a proximal end and a distal end, the proximal end of the duct body serving as an air intake and the distal end of said duct body serving as an air exhaust,

a fan system, said fan system being located within the hollow portion of said duct body and configured to blow air from the proximal end and out of the distal end of said duct body into garments attached to said duct body, and

two shoulder props, said shoulder props being attached to said duct body, extending laterally outwards from said duct body in order to support the shoulder portions of

garments, and featuring a plurality of openings that allow the passage of air onto the shoulder portions of garments.

2. A garment hanger system incorporating a drying system according to claim 1, wherein said hook device is re-attachable to said garment hanger system incorporating a drying system.

3. A garment hanger system incorporating a drying system according to claim 1, wherein said shoulder props are re-attachable to said garment hanger system incorporating a drying system.

4. A garment hanger system incorporating a drying system according to claim 1, wherein said duct body further serves as a storage area for batteries, switches, and other electrical components of said garment hanger system incorporating a drying system.

5. A garment hanger system incorporating a drying system according to claim 1, wherein said fan system further comprises a timer, said timer being configured such that a user may select the duration that said fan system operates.

6. A garment hanger system incorporating a drying system according to claim 1, wherein said shoulder props comprise a series of hollow conduits, said hollow conduits being configured to allow the passage of air from said fan system and featuring a plurality of perforations in order distribute air to said garment.

7. A garment hanger system incorporating a drying system according to claim 1, wherein said shoulder props comprise a chest shaped webbed structure, said chest shaped webbed structure configured to support garments in the shape of a human chest while allowing air to pass through said webbing and onto said garments.

8. A garment hanger system incorporating a drying system according to claim 7, wherein said shoulder props further comprise a series of hollow conduits, said hollow conduits being configured to allow the passage of air from said fan system and featuring a plurality of perforations in order distribute air to said garment.

9. A garment hanger system incorporating a drying system according to claim 1, wherein said shoulder props are telescoping, such that the length of said shoulder props are adjustable.

10. A garment hanger system incorporating a drying system, comprising:

a hook device, said hook device configured to re-attachably connect to said garment hanger system incorporating drying system to a bar or rail,

a duct body, said duct body serving as a central structure for said garment hanger system incorporating a drying system, attached to said hook device, and being shaped as a hollow elliptical cylinder such that the exterior surface of said duct body may be attached to the collar of garments to create a seal between said duct body and said collar of garments,

said duct body further featuring a proximal end and a distal end, the proximal end of the duct body serving as an air intake and the distal end of said duct body serving as an air exhaust,

a fan system, said fan system being located within the hollow portion of said duct body and configured to blow air from the proximal end and out of the distal end of said duct body into garments attached to said duct body, and

two shoulder props, said shoulder props being horizontally opposed and re-attachably connected to said duct body, extending laterally outwards from said duct body in order to support the shoulder portions of garments, and featuring a plurality of openings that allow the passage of air onto the shoulder portions of garments.

11. A garment hanger system incorporating a drying system according to claim 10, wherein said duct body further serves as a storage area for batteries, switches, and other electrical components of said garment hanger system incorporating a drying system.

12. A garment hanger system incorporating a drying system according to claim 10, wherein said fan system further comprises a timer, said timer being configured such that a user may select the duration that said fan system operates.

13. A garment hanger system incorporating a drying system according to claim 10, wherein said shoulder props comprise a series of hollow conduits, said hollow conduits being configured to allow the passage of air from said fan system and featuring a plurality of perforations in order to distribute air to said garment.

14. A garment hanger system incorporating a drying system according to claim 10, wherein said shoulder props comprise a chest shaped webbed structure, said chest shaped webbed structure configured to support garments in the shape of a human chest while allowing air to pass through said webbings and onto said garments.

15. A garment hanger system incorporating a drying system according to claim 14, wherein said shoulder props further comprise a series of hollow conduits, said hollow conduits being configured to allow the passage of air from said fan system and featuring a plurality of perforations in order to distribute air to said garment.

16. A garment hanger system incorporating a drying system according to claim 10, wherein said shoulder props

are telescoping, such that the length of said shoulder props are adjustable.

17. A garment hanger system incorporating a drying system, comprising:

a hook device, said hook device configured to re-attachably connect to said garment hanger system incorporating drying system to a bar or rail,

a duct body, said duct body serving as a central structure for said garment hanger system incorporating a drying system, attached to said hook device, and being shaped as a hollow elliptical cylinder such that the exterior surface of said duct body may be attached to the collar of garments to create a seal between said duct body and said collar of garments,

said duct body further featuring a proximal end and a distal end, the proximal end of the duct body serving as an air intake and the distal end of said duct body serving as an air exhaust,

said duct body further serving as a storage area for batteries, switches, and other electrical components of said garment hanger system incorporating a drying system

a fan system, said fan system being located within the hollow portion of said duct body and configured to blow air from the proximal end and out of the distal end of said duct body into garments attached to said duct body,

two shoulder props, said shoulder props being horizontally opposed and re-attachably connected to said duct body, extending laterally outwards from said duct body in order to support the shoulder portions of garments, being adjustable in length, and featuring a plurality of openings that allow the passage of air onto the shoulder portions of garments.

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