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(19) **United States**(12) **Patent Application Publication**
Taylor(10) **Pub. No.: US 2005/0204578 A1**(43) **Pub. Date: Sep. 22, 2005**(54) **HARDHAT DRYER THAT FOLDS
EFFICIENTLY****Publication Classification**(76) Inventor: **Harold Roy Taylor, Stratford, CT (US)**(51) **Int. Cl.⁷ A45D 1/00**(52) **U.S. Cl. 34/96; 34/99**

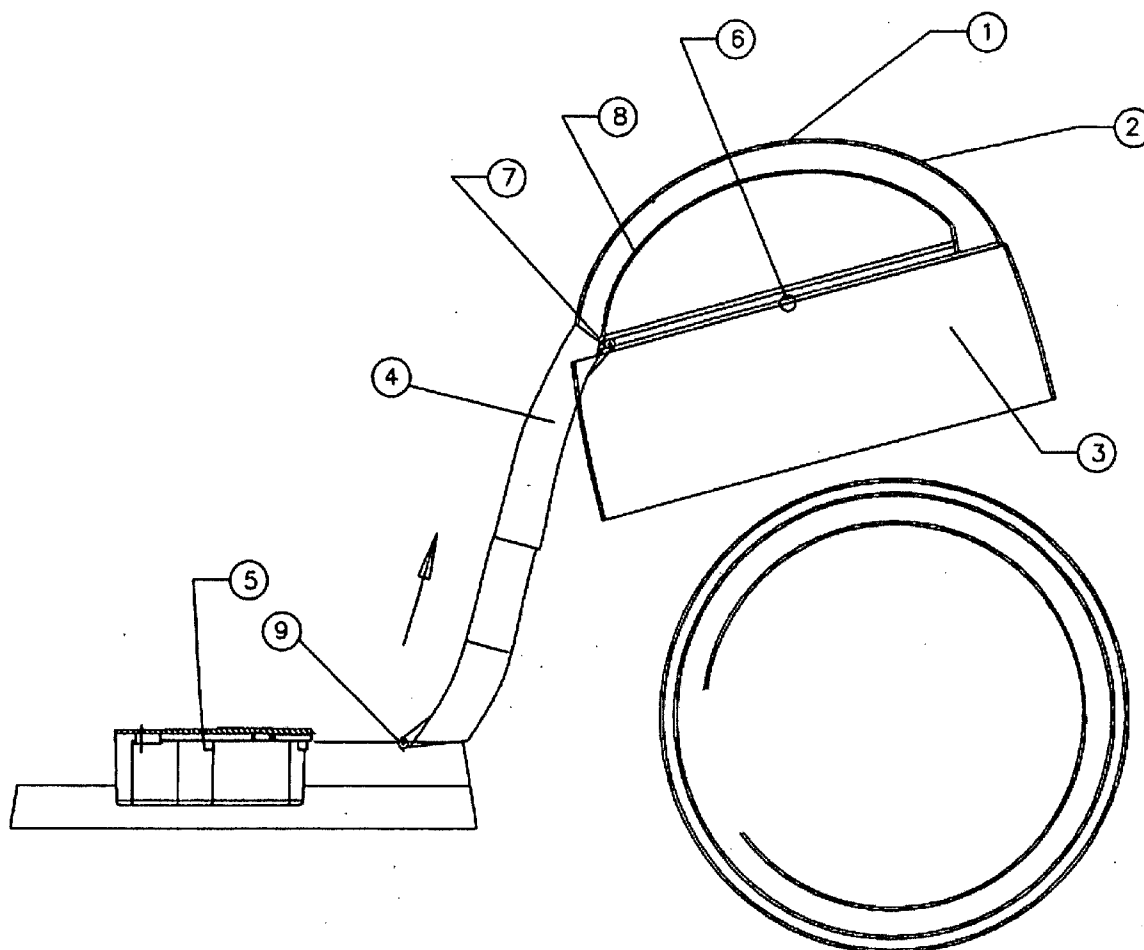
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ABSTRACT(21) Appl. No.: **11/086,776**(22) Filed: **Mar. 22, 2005****Related U.S. Application Data**(60) Provisional application No. 60/555,208, filed on Mar.
22, 2004.

An efficiently folding hard-bonnet dryer, which can be folded down to only six inches in standing height. This improved design is effected in part by rotating the lower half of the hard bonnet on an axis through the center of the bonnet, and also by telescoping the neck and arranging a pair of motors and a heater in an efficient geometry to span the folded neck.



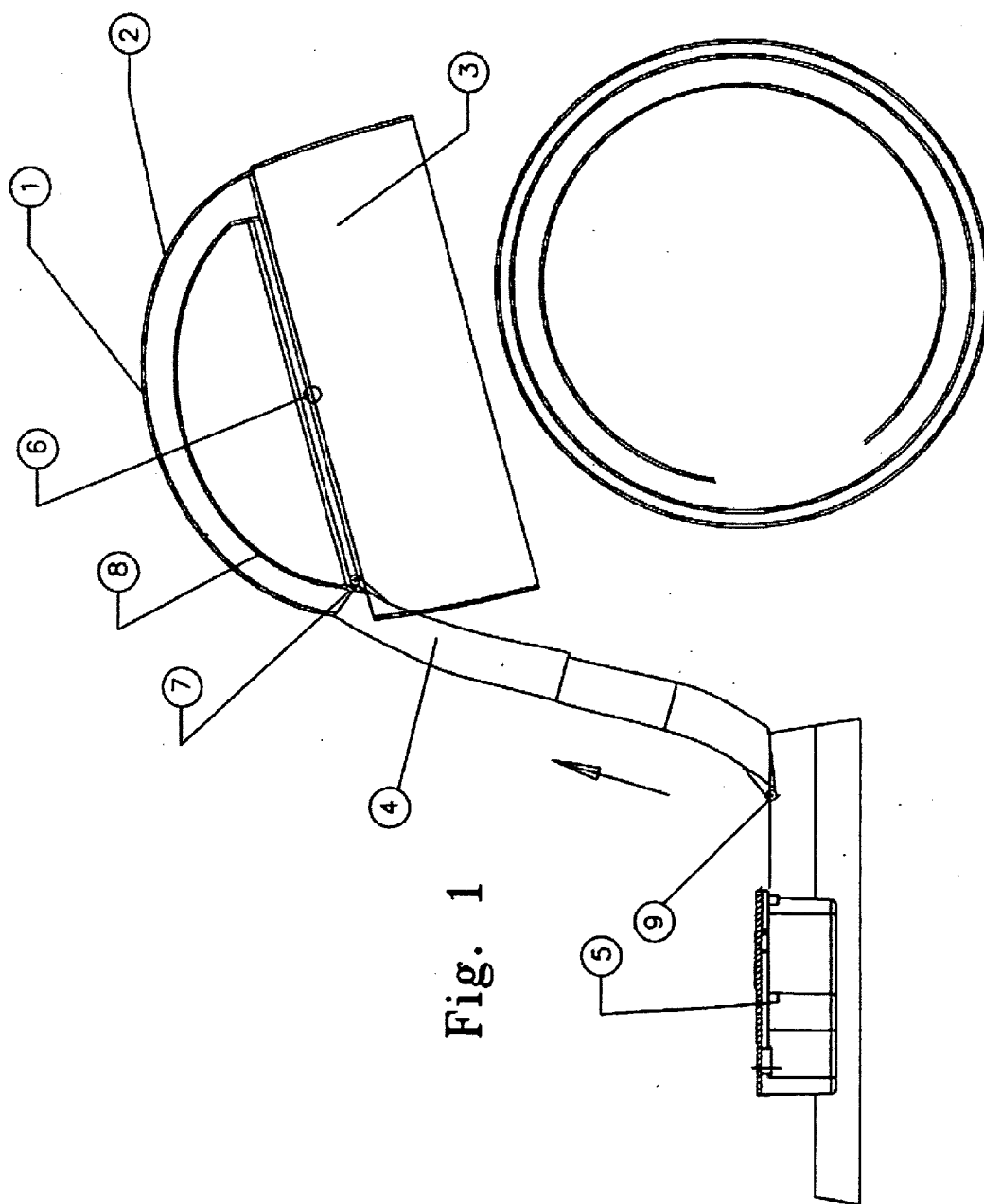
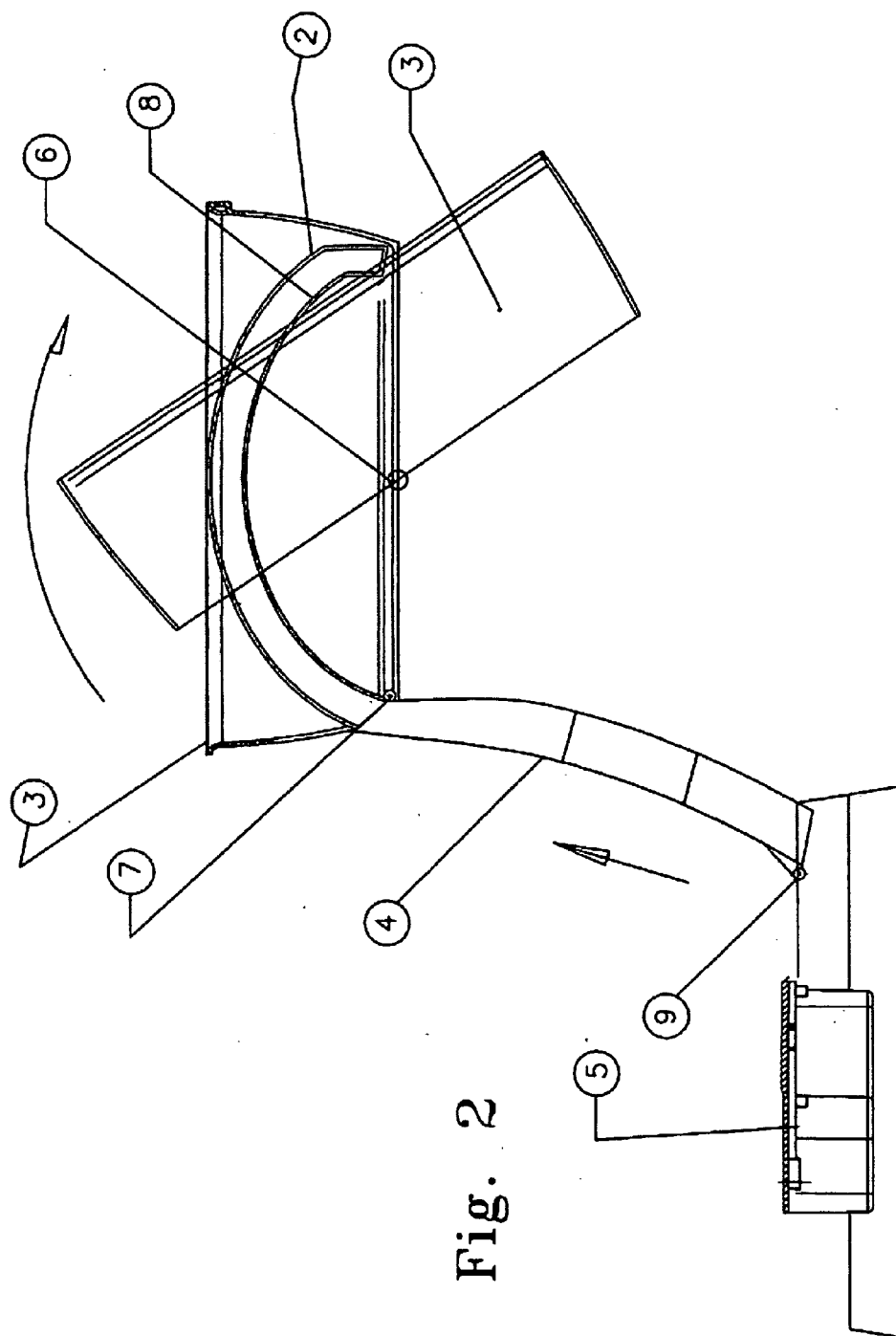


Fig. 1



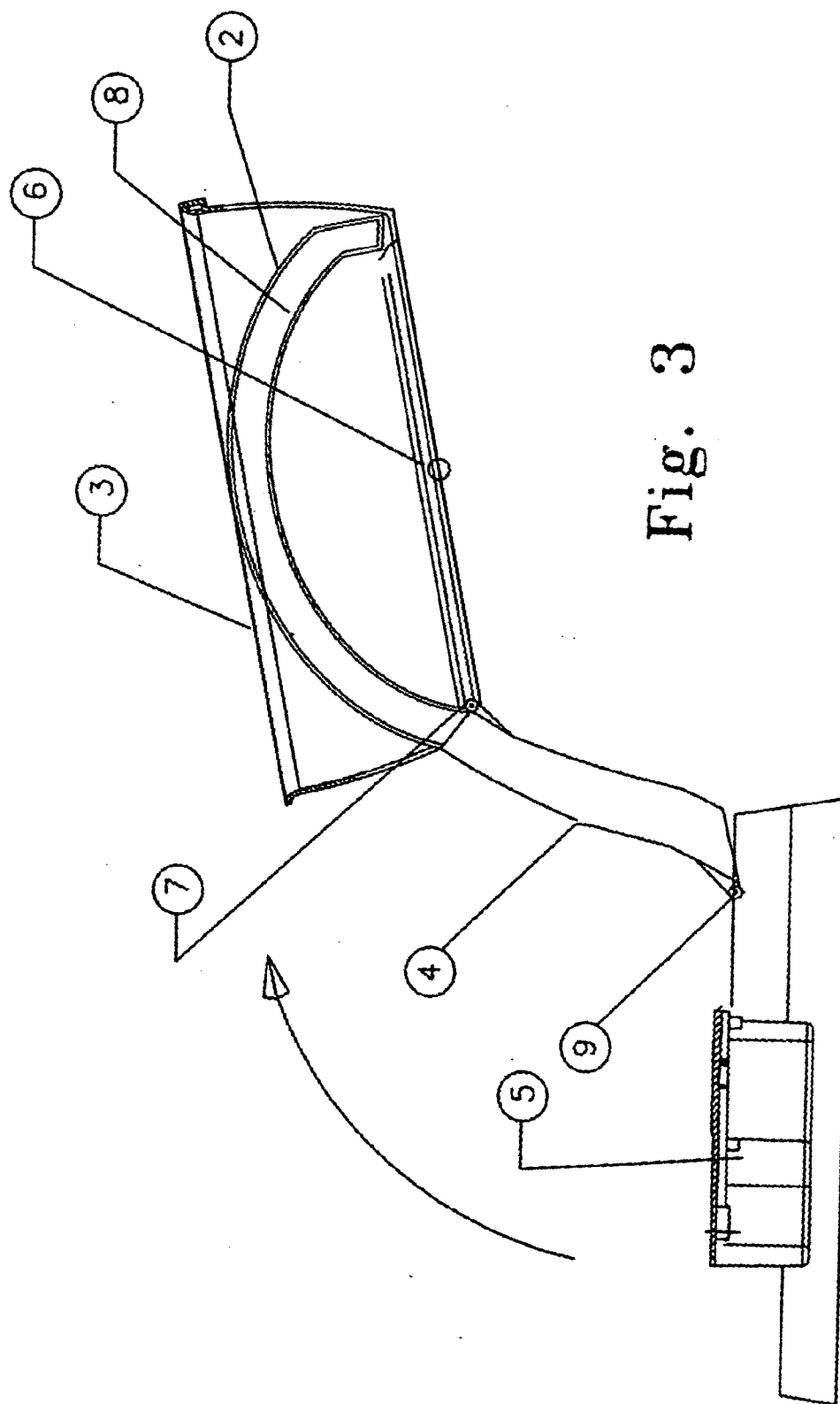


Fig. 3

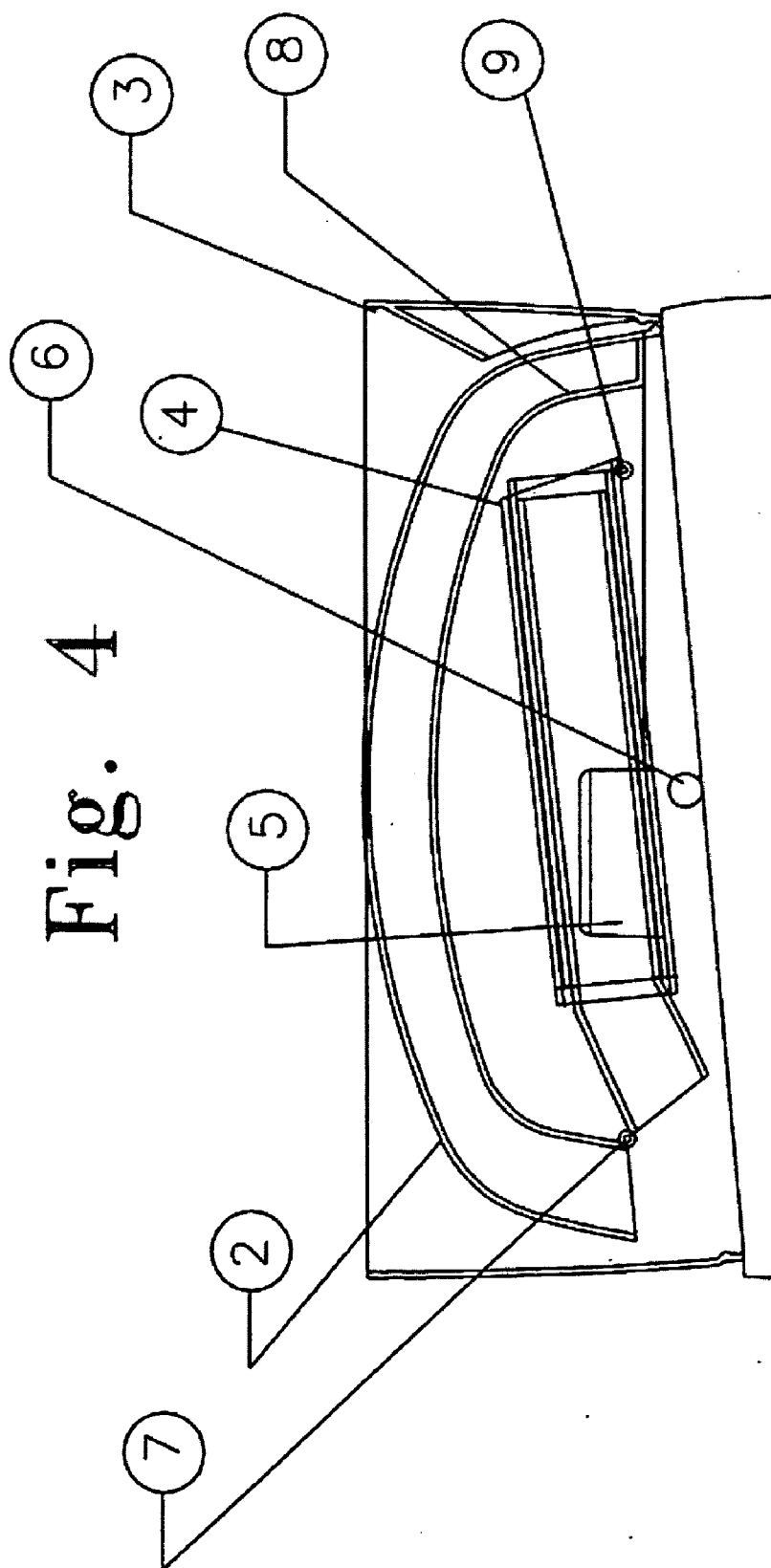
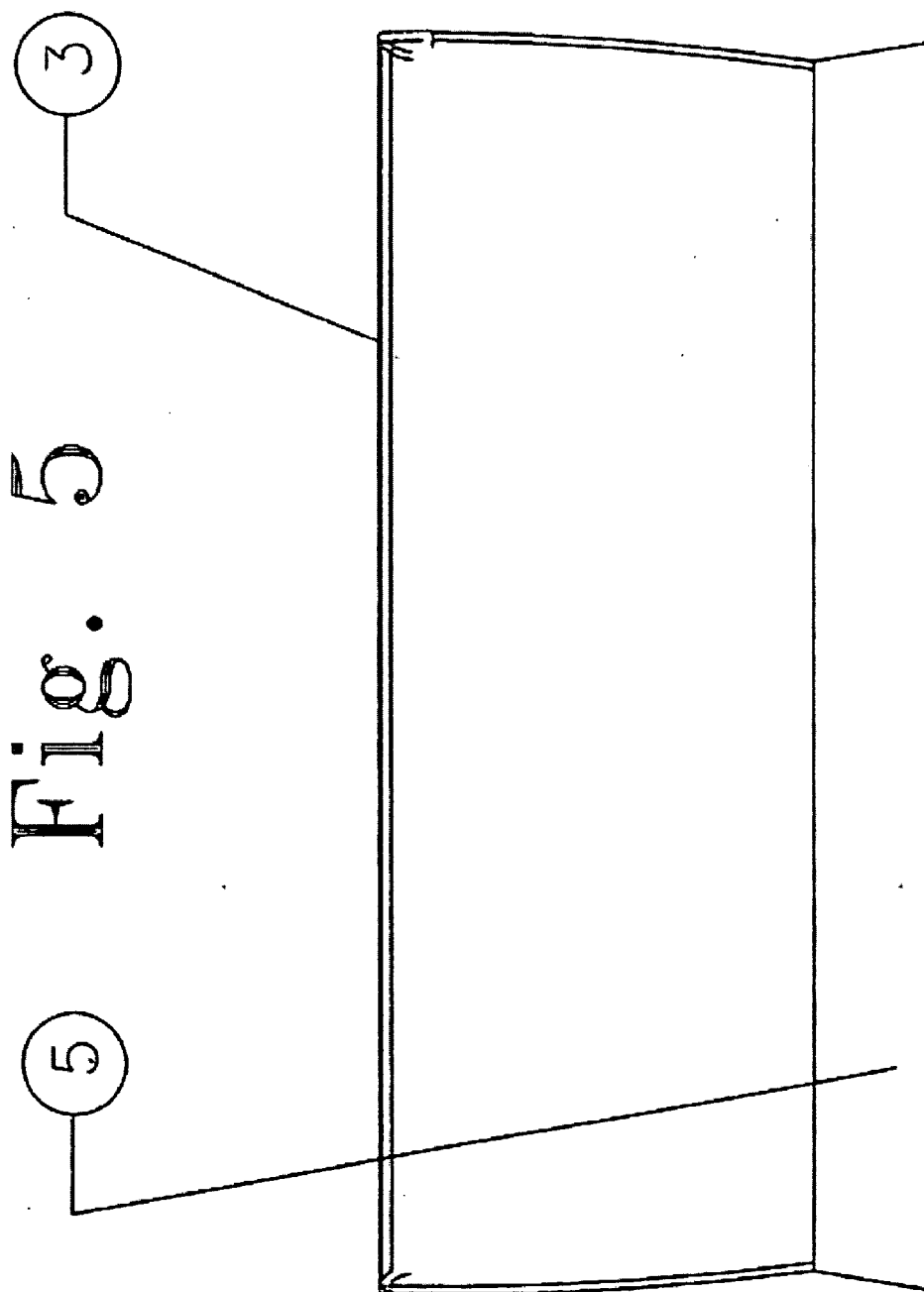
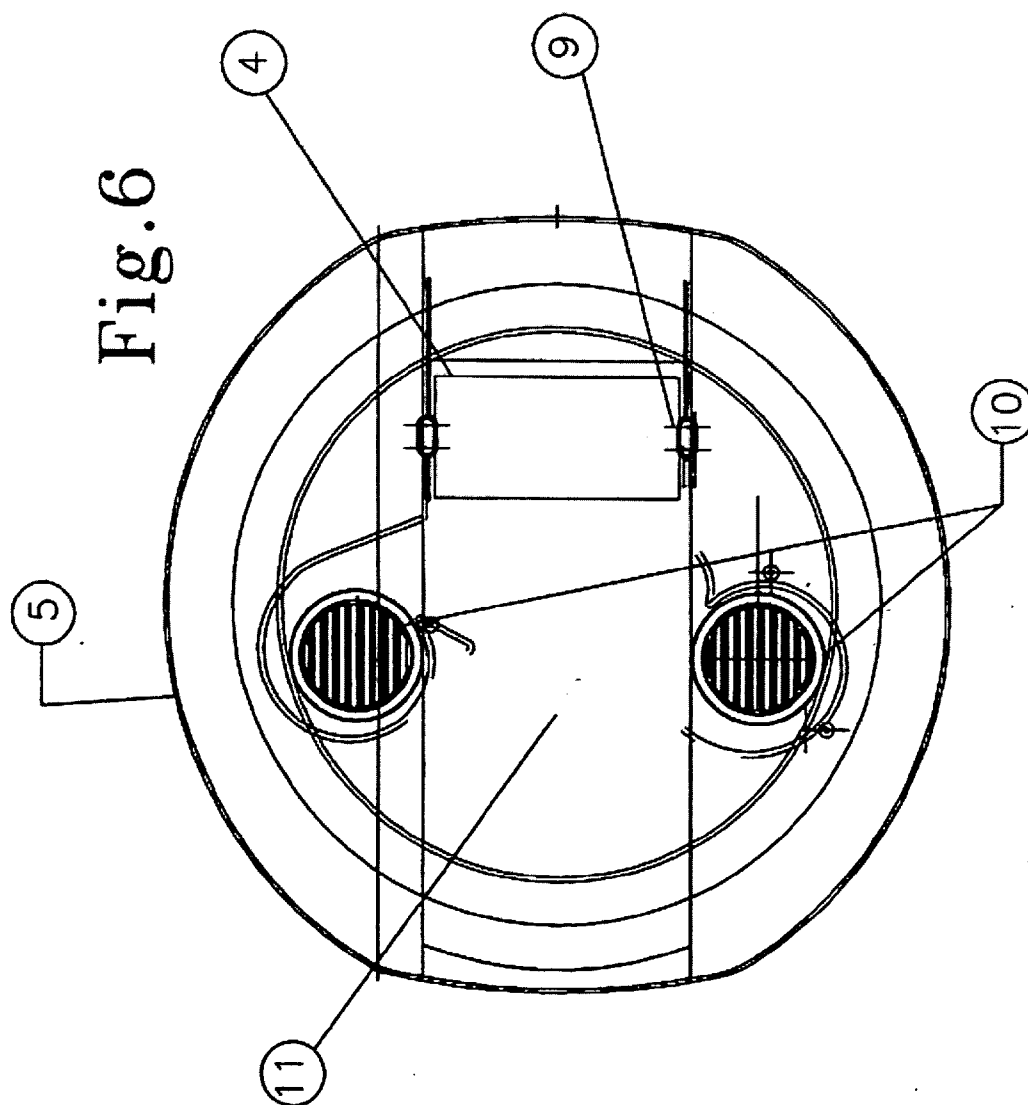


Fig. 4





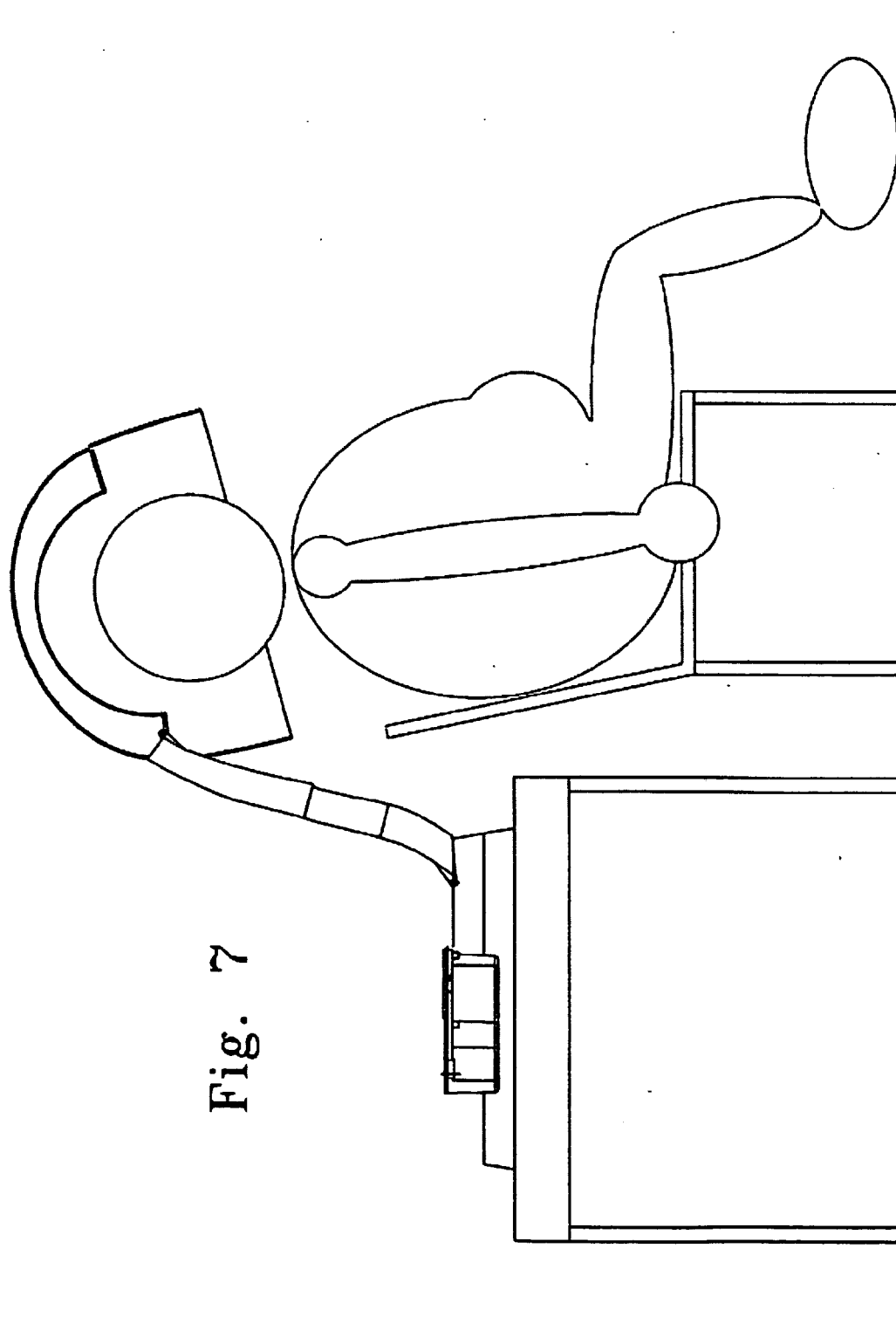


Fig. 7

HARDHAT DRYER THAT FOLDS EFFICIENTLY**CROSS-REFERENCE TO RELATED APPLICATIONS**

[0001] This application claims priority to U.S. Provisional Patent Application Ser. No. 60/555,208 filed on Mar. 22, 2004, incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to an improved hard bonnet hairdryer that can be folded into a small package most appropriate for a merchandising shelf.

[0004] 2. Description of Related Art

[0005] It is known in the art to fold a hardhat hairdryer, also called a hard bonnet hairdryer, into a smaller package in order to take up less space in storage and to fit inside a smaller sales package.

[0006] Hardhat dryers are generally made up of: a base, which encloses the heater and fan and which supports a raised structure; a supporting neck which extends up from the base and which also serves as a tubular plenum, carrying warm pressurized air, to the inside of a domed hat; and the hat or bonnet, which serves as a manifold to distribute warm air around the head.

[0007] The folded size of these prior art hardhats have, however, been limited by the standing height of the bonnet section of the dryer. The bonnet dimensions cannot be reduced beyond a size to fit the average head. The packaging, which contains the prior art hardhats for sale, exceeds the most efficient size to fit on modern retail shelves. The preferred standing height of a display package should be approximately six inches. The size and therefore the cost of the overlarge package is significant to the success of the product in the market. There is, therefore, need for such a more effective folding design for the bonnet dryer.

OBJECT AND SUMMARY OF THE INVENTION

[0008] It is an object of the present invention to overcome the shortcomings of the prior art mentioned above. These and other objects are achieved by the present invention described herein.

[0009] The present invention is of an efficiently folding hard-bonnet dryer, which can be folded down to only six inches in standing height. This improved design is effected in part by rotating the lower half of the hard bonnet on an axis through the center of the bonnet, and also by telescoping the neck and arranging a pair of motors and a heater in an efficient geometry to span the folded neck.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The present invention is more fully understood by reference to the following detailed description of an illustrative embodiment with the drawings identified below.

[0011] FIG. 1 is a schematic illustration of the preferred embodiment of the hard-bonnet hairdryer folded open into a working position.

[0012] FIG. 2 is a schematic illustration of the preferred embodiment of the hard bonnet hairdryer depicting the rotation of the lower half of the bonnet and with the telescoping neck raised up.

[0013] FIG. 3 is an illustration of the preferred embodiment of the hardhat dryer with the tubular neck folded up but not extended.

[0014] FIG. 4 is a cross section of the preferred embodiment of the hardhat dryer showing the folded neck and sections of the bonnet nesting on top the base.

[0015] FIG. 5 is a side view of the folded hardhat dryer.

[0016] FIG. 6 is a top view of the preferred embodiment of the hardhat dryer showing the relative position of a pair of fans and the area left open between the fans to fit the folded neck.

[0017] FIG. 7 illustrates how the hard bonnet dryer is intended to be used, unfolded.

DETAILED DESCRIPTION OF THE INVENTION

[0018] Referring to FIG. 1, the preferred embodiment of the present invention 1, a folding hard-bonnet hair dryer. The dryer is shown in a partially sectioned, side view illustrating the hairdryer fully unfolded and assembled for drying hair. The dryer is intended to stand on a weighted base 5, upon a tabletop, with the assembled bonnet 2, 3 hinged off the telescoping neck 4 and extending over the edge of the table in order to cover the head of a seated person, as shown in FIG. 7.

[0019] FIGS. 1 through 5 illustrate the progressive folding or unfolding of the dryer. FIG. 5 illustrates a plan view of the folded hardhat dryer 1 and shows the lower half of the bonnet 3 and the base 5. FIG. 4 illustrates a section through the folded hardhat. The lower portion of the bonnet 3 is inverted around the bearing 6 and nests the upper portion of the bonnet 2. The sectional view illustrates the inner 8 and outer 2 walls of the upper portion of the bonnet. Hinge 7 connects the inner wall of the upper portion of the bonnet to the telescoped neck 4. The neck is hinged at the lower end by hinge 9 to the base 5 and folds into a space 11 between the twin fan housings 10 on lower hinge 9. The space 11 for the nesting of the neck between the fan housings 10 is illustrated in a top view of the hairdryer base in FIG. 6.

[0020] FIG. 3 illustrates a partially unfolded dryer with the neck 4 and bonnet 2, 3 lifted off the dryer base on the neck hinges 7, 9. The neck 4 is shown telescoped down and the bonnet halves 2, 3 are shown still nested together. FIG. 2 illustrates the dryer partially unfolded with the neck 4 telescoped out and the lower portion of the bonnet 3 being rotated around bearing 6. FIG. 1 shows the dryer unfolded after rotating the lower half of the bonnet 3 to mate with the upper half of the bonnet 2 and fully unfolded.

[0021] While a preferred embodiment of the invention has been herein disclosed and described, it is understood that various modifications can be made without departing from the scope of the invention.

What is claimed is:

1. A portable hair dryer comprising:
 - a base;

a heater within said base for heating air;
an extendible neck supported by said base adapted to selectively move between an extended position and a non-extended position;
a bonnet attached to said neck adapted to distribute said heated air about a user's head; and
a fan within said base to transfer said heated air from said base to said bonnet.

2. A portable hair dryer according to claim 1, wherein said hair dryer is adapted to be able to be folded to a height of less than 8 inches.

3. A portable hair dryer according to claim 1, wherein said hair dryer is adapted to be able to be folded to a height of approximately 6 inches.

4. A portable hair dryer comprising:
a base adapted to rest on a generally flat surface;
a heater adapted to heat air;
a bonnet adapted to be positioned adjacent to a user's hair and to direct heated air toward said user's hair;
a fan adapted to cause said heated air to pass through said bonnet; and
a neck portion adapted to support said bonnet relative to said base.

5. A portable hair dryer according to claim 4, wherein said neck portion is pivotally connected to said base and to said bonnet.

6. A portable hair dryer according to claim 4, wherein said neck portion comprises a plurality of telescopically-fitting portions adapted to be extended or compressed in a manner in which said portions are telescopically nested.

7. A portable hair dryer according to claim 4, wherein said neck portion is pivotally connected to said base and to said bonnet; and
said neck portion comprises a plurality of telescopically fitting portions adapted to be extended or compressed in a manner in which said portions are telescopically nested.

8. A portable hair dryer according to claim 7, wherein said hair dryer is adapted to be able to be folded to a height of less than 8 inches.

9. A portable hair dryer according to claim 7, wherein said hair dryer is adapted to be able to be folded to a height of approximately 6 inches.

10. A portable hair dryer according to claim 7, wherein said hair dryer is adapted to be selectively locked in a folded position, and selectively locked in an extended, operating position.

11. A portable hair dryer according to claim 7, further comprising
a bonnet extension portion pivotally attached to said bonnet and adapted to be selectively positioned to extend downwardly from said bonnet or to extend upwardly from said bonnet.

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