



PATENT SPECIFICATION

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(54) Title: Patio heater with fabric parasol

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Title

Patio heater with fabric parasol

Field of the Invention

The present invention relates to patio heaters and particularly to a patio
5 heater having a parasol dish formed of a fabric material.

Background Of The Invention

Patio heaters are well known in the art and are used for outdoor heating.
Traditionally, they utilise a gas fuel supply which is provided in a housing in a
10 lower portion of the heater. A pole extends upwardly from the lower portion to a
burner arrangement which is above head height. A dish is provided above the
burner arrangement and is adapted to deflect heat downwardly about the pole,
thereby providing for a heating or warming of persons around the heater. One
example of such a parasol heater is described in EP 0 976 979, of the present
15 inventor, which describes a patio heater which provides the dish in multiple
sections so as to enable an efficient packing of same.

The traditional patio heaters were only provided with a heater in an upper
region thereof. The present inventor has modified such simple arrangements to
incorporate other features such as tables, a light and also a table barbecue.
20 Such arrangements are described in GB 0125122 and IE S2000/0879. These
adaptations are advantageous in that additional benefits are provided to the
user. Not only can he extend the sitting out period in the outdoor environment
by utilization of the heater but he can also provide lighting in the event that the
user wishes to sit out in the evening or at night time. Furthermore, the provision
25 of a table barbecue enables the user(s) to sit around the heater, taking
advantage of the heat and light provided, and cook or prepare his food. This
combination of features has prompted the user to extend further the time period
in which they wish to sit out.

Heretofore all patio heaters are provided with a metal dish- either as a
30 single piece or in accordance with EP 0 976 979 in metal sections. The reason

for this is simple- the dish is in intimate contact with the heat generated by the burner- in fact its purpose is to deflect that heat downwardly- and therefore it must be able to tolerate such exposure. Metal is well known for use in such applications and is therefore the obvious and traditional choice for forming these dishes.

One of the problems associated with metal dishes is that a metal dish of any size is a substantial weight and as such it is difficult to provide dishes of any great dimension. This is disadvantageous in two main ways. Firstly, the weight of such dishes increases the cost of transportation which means that the overall cost of the patio heater is increased. Secondly, in certain instances it would be useful to enable the person sitting around the parasol to be protected from inclement weather, and therefore increase the diameter of the dish above the person. With the known dishes this is not possible as the weight is too great and can lead to the tipping of the patio heater over. The present inventors have previously addressed this problem by providing a gazebo within which the patio heater may be situated. Such an arrangement is described in our British patent application, GB2400386, from which it will be appreciated that it is necessary to erect two separate items; the patio heater and the gazebo in order to achieve the full benefit.

A similar arrangement is provided in WO0008965 which describes mounting a fabric umbrella to an upper surface of a metal dish. This addresses the problem of having to erect the two items separately in that the umbrella is integrally formed with the metal dish of the heater. Problems associated with this arrangement are described as including the issue relating to possible scorching or burning of the fabric and the necessity to ensure that the fabric is not exposed to too great a heat. The inventors of WO0008965 address this problem by providing a chimney in a centre region of the patio heater directly above the burner element. Heat generated by the burner then escapes through the chimney where it is lost to the atmosphere, which reduces the performance of the heater but is necessary in this arrangement to remove the heat from contacting the fabric of the umbrella.

Although this serves to address the problem of preventing the fabric from scorching, it is disadvantageous in that heat is lost from the chimney to the air above. These and other problems are addressed by a parasol heater of the present invention.

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Summary Of The Invention

Accordingly, a first embodiment of the invention provides a parasol heater having a housing with a fuel connection adapted to be coupled to a gas fuel supply, a pole extending upwardly from the housing and adapted to support a gas burner arrangement, the burner arrangement being provided below a parasol adapted to deflect heat generated by the burner downwardly about the pole and wherein the parasol is formed from a reflective fabric material such that heat generated by the burner is reflected downwardly by the fabric material.

The fabric material is desirably formed from a heat resistant fabric material such as those formed from glass fiber, ceramic or stainless steel thread. Such materials are well known for fire blankets and the like and a number of suppliers such as ThermoCeramic, provide a variety of products. In a preferred embodiment the fabric material is formed of a two layer structure, a first layer being a woven heat resistant fabric forming a substrate for a second reflective layer provided on the outer surface. Such a reflective layer may suitably be formed of an aluminium layer.

The fabric parasol is desirably mounted on a support frame. Desirably the support frame includes a central hub, which, when the heater is fully assembled, is directly above the burner. The hub provides a central contact for a plurality of ribs extending radially from the hub. Each of the ribs are provided in intimate contact with the fabric and support the fabric so as to give the parasol its shape. The ribs have a hub proximal portion and a hub distal portion. The length of the individual ribs define a circumference of the parasol, and in certain embodiments distal portions of individual ribs may be coupled to their

immediate neighbours thereby providing a level of rigidity at this circumference of the parasol.

The support frame of the parasol may be desirably moved from an activated position wherein the parasol is fully extended above the burner and an deactivated position wherein the parasol is retracted such that it envelops the burner. The movement of the parasol between the two positions is desirably achieved by a mechanism similar to that used for umbrella opening.

In a modification to that described the parasol may be provided with a skirt, the skirt extending downwardly from circumference of the parasol. As the skirt is only attached at its upper edge to the parasol it is free to blow in the wind and as such will not effect a tipping of the heater in high winds. This skirt may be removably attached or coupled to the main parasol or may be permanently attached. In the former embodiment, the removable coupling may be achieved by use of interlocking fasteners such as a POP fastener with matching components provided on each of the skirt and the parasol. The skirt may be provided in a plurality of individual sections such that the skirt may fully extend about the parasol or may be coupled to individual regions of the parasol.

The use of a fabric heat reflecting parasol in accordance with the present invention enables the provision of a larger dimensioned parasol than heretofore achievable. As the parasol fabric is lighter than the traditional metal dish, it is possible extend the diameter of the parasol to those dimensions usually found for patio umbrellas (2-3 m) without requiring supports at the periphery of the parasol. When the wind increases to a level where there is a possibility of the parasol been blown, it can be simply brought down to a retracted position.

These and other features of the present invention will be better understood with reference to the following drawings.

Brief Description Of The Drawings

Figure 1 is a view from the side of a parasol heater according to the present invention with the parasol erected.

5 Figure 2 is a view from below of the parasol portion of the heater of Figure 1.

Figure 3 is a view from the side of the heater of Figure 1 with the parasol collapsed.

10 Figure 4 is a section through an upper portion of the parasol heater of Figure 1 showing a mechanism suitable for opening and closing the parasol.

Figure 5 is a view similar to that of Figure 1, showing an inclusion of a skirt to the parasol.

Detailed Description Of The Drawings

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One embodiment of the present invention will now be described with reference to Figures 1 to 5 of the accompanying drawings.

As shown in Figure 1, the present invention provides a parasol heater 100
20 having a housing portion 105 adapted to house a bottle of gas. A pole 110 extends upwardly from the housing portion 105 and is adapted to support a gas burner arrangement 115. The burner arrangement 115 is provided below a fabric parasol 120 which is adapted to deflect heat generated by the burner downwardly about the pole. In the embodiment of Figure 1, the heater
25 additionally includes a lighting arrangement 125 which is provided below the burner and is fuelled from the same gas supply as the burner. In accordance with the present invention, the fabric parasol is formed from a reflective fabric material such that heat generated by the burner is reflected downwardly by the fabric material. The parasol may be formed from a number of distinct panels
30 120a, 120b, 120c or may in other embodiments be formed from a single piece of material.

The fabric material is desirably formed from a heat resistant fabric material such as those formed from silica or glass fibre, ceramic or stainless steel thread and, unlike those traditional metal heat reflecting dishes, is a non-rigid material.

5 Such fabric materials are well known for fire blankets and the like and a number of suppliers such as ThermoCeramics provide a variety of products. An example of one of their products is a foil backed textile. In a preferred embodiment of the invention, the fabric material is formed of a two layer structure, a first layer being a woven heat resistant fabric forming a substrate for
10 a second reflective layer provided on the outer surface. Such a reflective layer may suitably be formed of an aluminium layer.

As shown from the view of Figure 2, the fabric parasol is desirably mounted on a support frame, so as to provide rigidity to the flexible fabric.

15 Desirably the support frame includes a central hub 200, which, when the heater is fully assembled, is directly above the burner. The hub provides a central contact for a plurality of ribs 205 extending radially from the hub. Each of the ribs are provided in intimate contact with the fabric 120 and support the fabric so as to give the parasol its shape. The ribs have a hub proximal portion 205a
20 and a hub distal portion 205b. The length of the individual ribs define a circumference 210 of the parasol. In certain embodiments distal portions of individual ribs may be coupled to their immediate neighbours thereby providing a level of rigidity at this circumference of the parasol.

25 In a fashion similar to the operation of an umbrella, the support frame of the parasol may be desirably moved from an activated position wherein the parasol is fully extended above the burner (Figure 1) and a deactivated or collapsed position wherein the parasol is retracted such that it envelops the burner (Figure 3). The movement of the parasol between the two positions is
30 desirably achieved by mounting the hub on a spring mounting arrangement 400 and pivotally coupling the hub proximal portions of the ribs to the hub. The

spring mounting arrangement includes a first collar 401 having two connecting members 402a, 402b connecting an upper surface of the collar to a lower surface of the hub. A lower surface of the collar 401 is coupled to a spring 402 mounted about a support rod 405 which is co-axial with the pole 110 and on which the collar 401 is slideable. A lower end 405b of the rod 405 is seated on a support plate 410 which extend across an inner portion of the burner 115. The rod stands upwardly from its seat, through the burner mixing plate 415, and has mounted thereon a second collar 420. The collar 420 is pivotally coupled to the arms 215 of the support frame. The arrangement of Figure 4 is configured such that the spring in a relaxed state has the parasol in a collapsed state. When an actuation member 425 is pulled downwardly, it pulls the first collar 401 downwardly compressing the spring. The collar may be moved downwardly until it abuts a stop 430. This movement effects a pivoting of the arms and the ribs about their respective pivot couplings to the second collar and hub, and an expansion of the parasol. When the actuation member 425 is released the spring causes the first collar to move upwardly again thereby effecting an contraction of the parasol.

In the activated extended position, the first collar 401 is moveable upwardly on the support rod 405. In the deactivated position the collar moves downwardly into an inner portion of the burner, the movement of the hub effecting a corresponding movement of the arms 215, and their coupled ribs 205 inwardly such that the hub distal portions 205b are moved adjacent to pole 110.

In a modification to that described heretofore, the parasol may be provided with a skirt 500, the skirt extending downwardly from the circumference 210 of the parasol. Such an arrangement is shown in Figure 5. As the skirt is only attached at its upper edge 505 to the parasol it is free to blow in the wind and as such will not effect a tipping of the heater in high winds. This skirt may be removably attached or coupled to the main parasol or may be permanently

attached. In the former embodiment, the removable coupling may be achieved by use of interlocking fasteners such as a POP fastener with matching components provided on each of the skirt and the parasol. The skirt may be provided in a plurality of individual sections such that the skirt may fully extend
5 about the parasol or may be coupled to individual regions of the parasol. In the embodiment of Figure 5, two skirt portions are shown.

The use of a fabric heat reflecting parasol in accordance with the present invention enables the provision of a larger dimensioned parasol than heretofore
10 achievable. As the parasol fabric is lighter than the traditional metal dish, it is possible extend the diameter of the parasol to those dimensions usually found for patio umbrellas (2-3 m) without requiring supports at the periphery of the parasol. When the wind increases to a level where there is a possibility of the parasol been blown, it can be simply brought down to a retracted position.
15 Providing such a dimensioned parasol is advantageous in a number of manners.

For example, traditionally in many gardens a user may have purchased a sun umbrella for use in providing shade when the sun is out and a patio heater
20 when the sun goes in. Typically, they will sit out in the sun during the afternoon and only be obliged to use the patio heater when the sun goes in. This is a cumbersome arrangement requiring a rearrangement of the garden furniture. It becomes even more cumbersome when the sun-umbrella is provided within the centre of a table. The parasol heater of the present invention obviates both
25 these problems. Firstly, as the fabric parasol can be dimensioned greater than traditional metal dishes it is possible for it to act as a sun shade during hot weather. When the sun goes in, the heater is simply turned on and the parasol acts as a heat deflector, deflecting heat downwardly. There is no requirement for people to move, they continue sitting under the same parasol- it simply is
30 serving a dual purpose. Also, the inventors of the present invention have also developed a table which can be used in combination with a parasol heater- the

table consists of two portions which have a cut out in the centre and which can then wrap around the base portion of the patio heater. This then allows the use of the parasol as a sun-umbrella in a traditional mounting arrangement for sun-umbrellas, through the centre of a table.

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The present invention provides a parasol heater with a fabric heat deflecting parasol. Although it has been described with reference to specific combinations of integers it will be appreciated that the present invention is not intended to be limited to any one set of combinations and individual integers can be included or omitted depending on the specific requirements of the heater. The words "comprises/comprising" and the words "having/including" when used herein with reference to the present invention are used to specify the presence of stated features, integers, steps or components but does not preclude the presence or addition of one or more other features, integers, steps, components or groups thereof. Furthermore the words "upper/lower" and the like are used for ease of explanation only and it is not intended to limit the invention to any one orientation.

The words comprises/comprising when used in this specification are to specify the presence of stated features, integers, steps or components but does not preclude the presence or addition of one or more other features, integers, steps, components or groups thereof.

Claims

1) A patio heater having a housing with a fuel connection adapted to be coupled to a gas fuel supply, a pole extending upwardly from the housing and adapted to support a gas burner arrangement, the burner arrangement being provided below a parasol adapted to deflect heat generated by the burner downwardly about the pole and wherein the parasol is formed from a reflective fabric material such that heat generated by the burner is reflected downwardly by the fabric material.

2) The heater of claim 1 wherein the fabric material is formed from a heat resistant fabric material selected from those formed from glass fiber, ceramic or stainless steel thread.

3) The heater of any preceding claim wherein the fabric parasol is mounted on a support frame, the support frame being collapsible such that the parasol is moveable from an activated position wherein the parasol is fully extended above the burner and an deactivated position wherein the parasol is retracted such that it envelops the burner.

4) The heater as claimed in any preceding claim wherein the parasol is provided with a skirt, the skirt extending downwardly from circumference of the parasol.

5) A heater substantially as hereinbefore described with reference to and or as described in any one of Figures 1 to 5.

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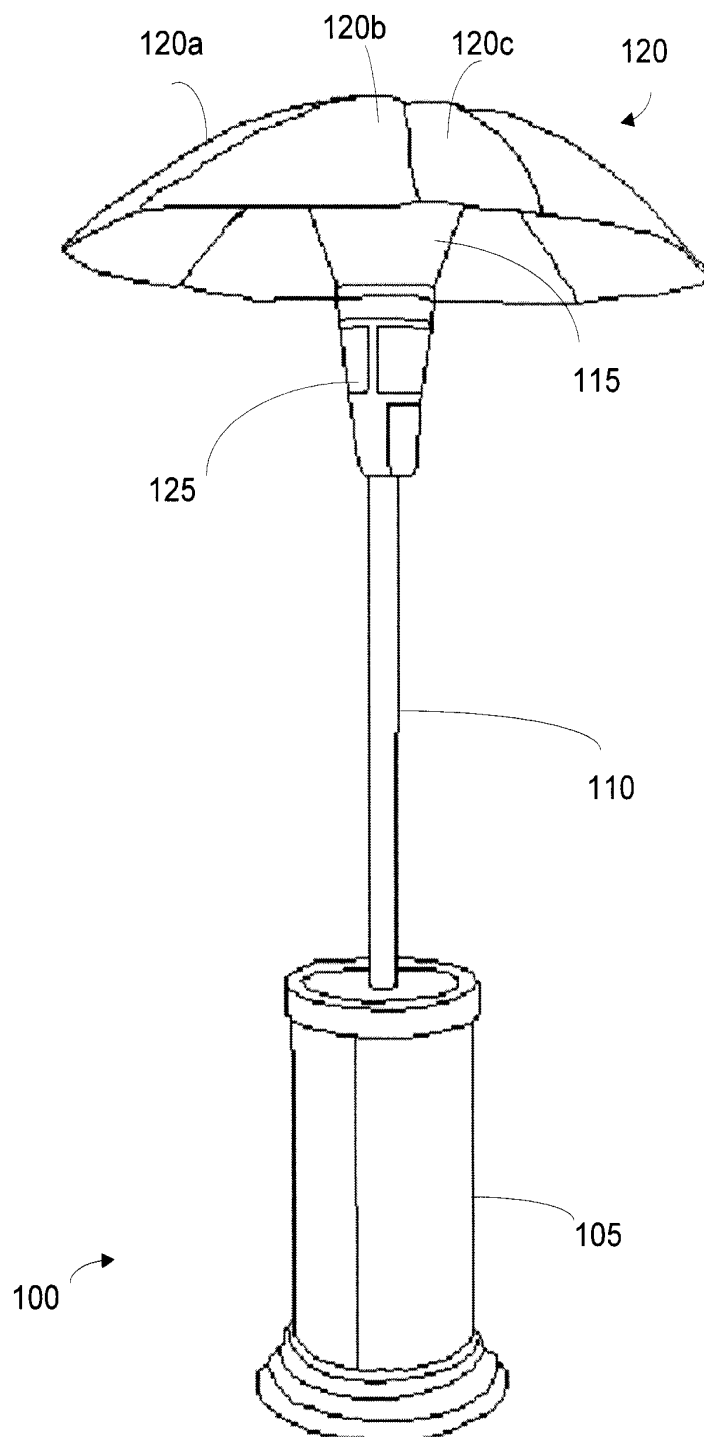


Figure 1

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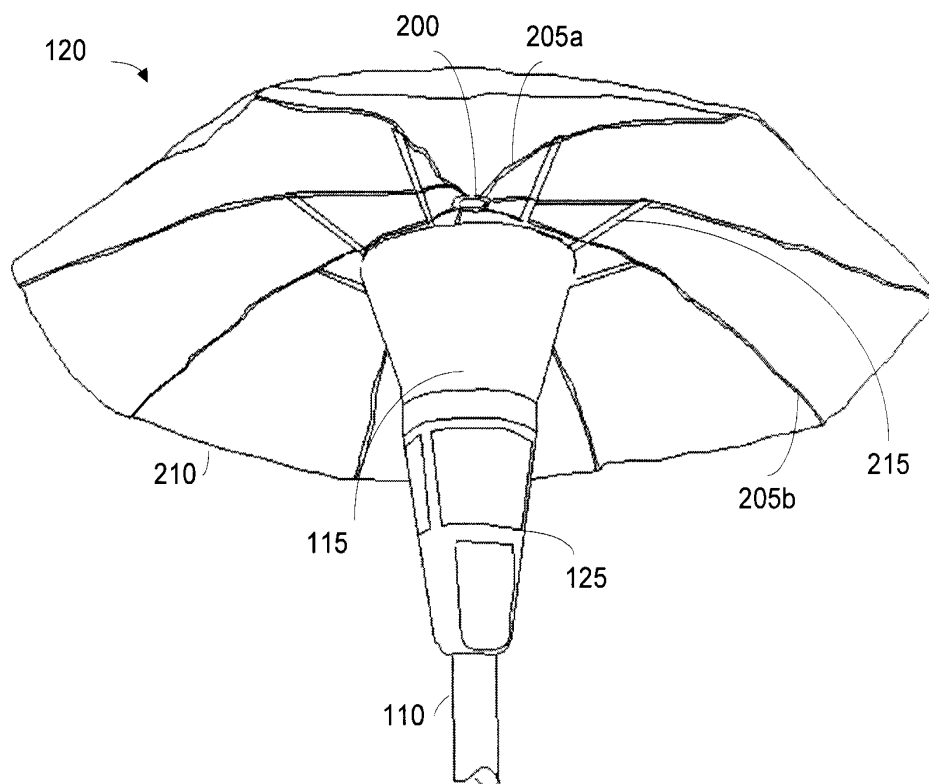


Figure 2

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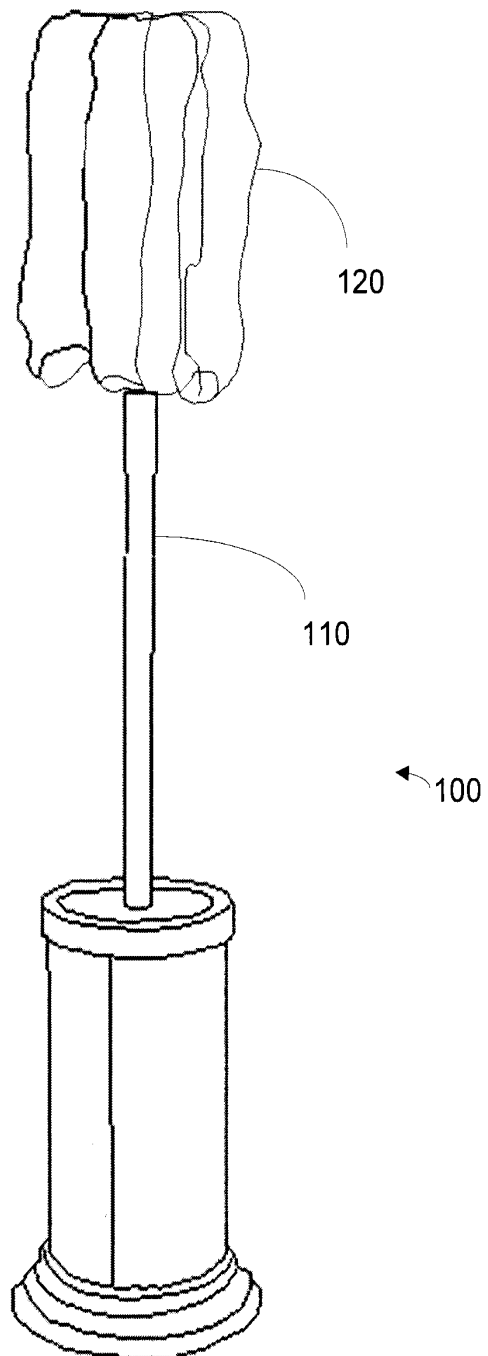


Figure 3

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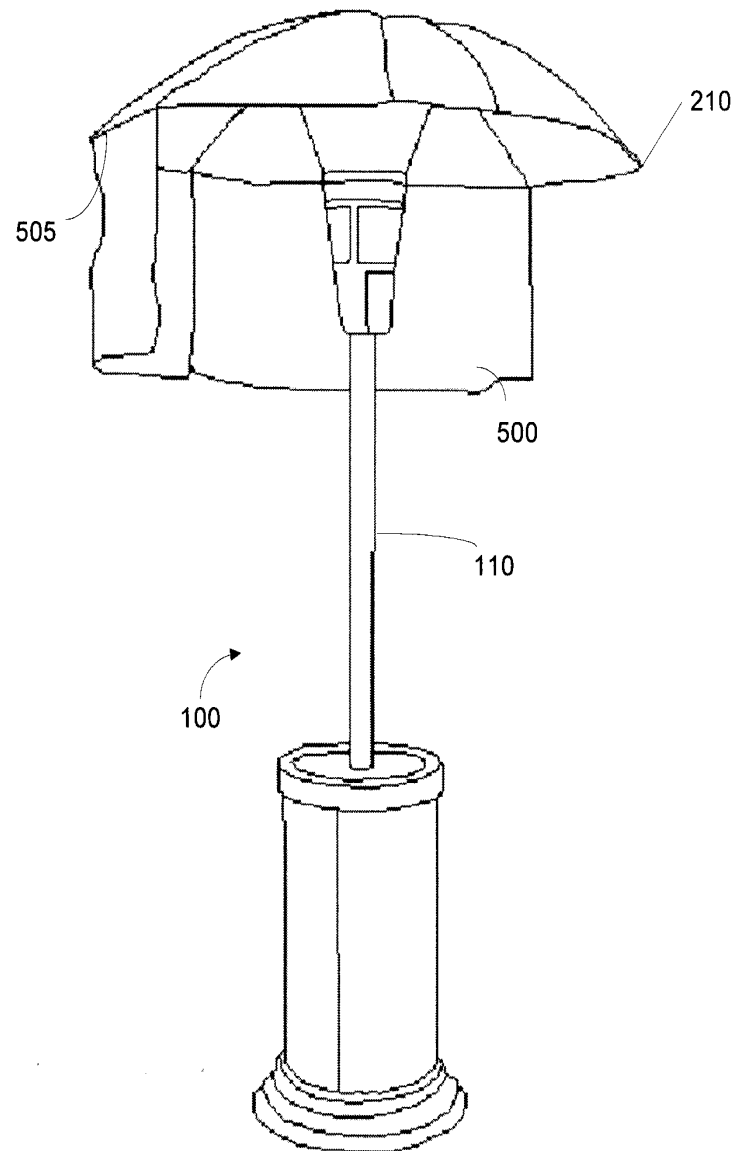


Figure 5