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• **Bowyer, Rachel**  
**Caterham, Surrey CR3 6UB (GB)**

(72) Inventor: **Bowyer, Michael John**  
**Caterham Surrey, CR3 6LS (GB)**

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(74) Representative: **Feakins, Graham Allan et al**  
**RAWORTH, MOSS & COOK**  
**36 Sydenham Road**  
**Croydon, Surrey CRO 2EF (GB)**

(71) Applicants:  
• **Bowyer, Michael John**  
**Caterham, Surrey CR3 6UB (GB)**

(54) **Umbrella adapted to incorporate heater**

(57) An umbrella incorporates a number of heaters (5), the umbrella having a canopy (2) and support means (6) from which the heater may be supported below the canopy in the region of a periphery of the canopy.

The arrangement is such that the umbrella can be closed whilst allowing the heater to be accommodated within the canopy when the umbrella is in its closed condition.

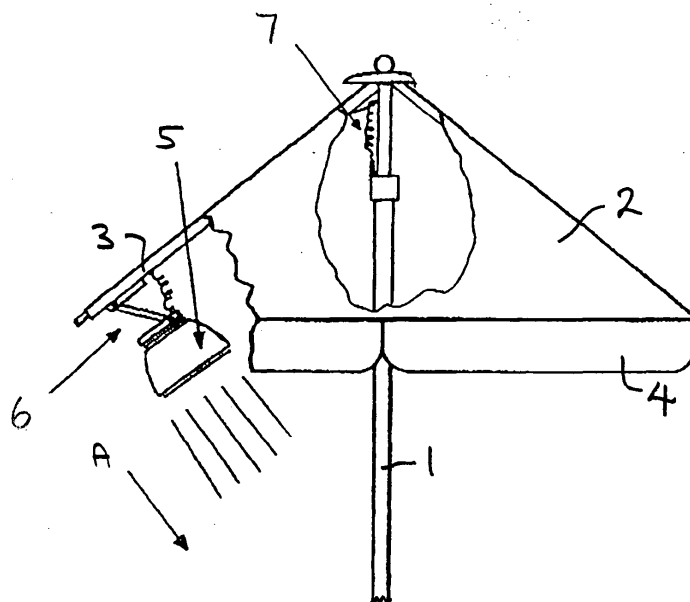


Figure 1

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## Description

**[0001]** This invention relates to an umbrella adapted to incorporate a heater and more particularly to the type of umbrella that can find use in a garden or on a patio.

**[0002]** Such umbrellas are known that incorporate heaters. Once such type is shown in US-A-5,964,233, where a patio umbrella incorporates a centrally-located fuel-burning radiant heater in the crown of the umbrella but in this case the rather substantial construction requires reflective shields to direct the heat downwardly and to protect the canopy above it and it also necessarily requires a duct for venting the combustion products.

**[0003]** Another form of umbrella is known that incorporates electric heaters such as quartz radiant heaters that are mounted around a central support pole of the umbrella and these are becoming common in beer gardens of public houses and other public spaces.

**[0004]** Before such an umbrella can be collapsed, however, it is necessary to remove the heaters because otherwise they would obstruct the closing mechanism of the umbrella. Here, it should be appreciated that such umbrellas are normally kept in position overnight, whilst it is wise that they be closed in case of strong winds.

**[0005]** In any case, it is still necessary to dismount the heaters before closing the umbrellas and to remount them for use once the umbrellas have been opened.

**[0006]** According to the present invention, there is provided an umbrella adapted to incorporate a heater, the umbrella comprising a canopy and support means from which the heater may be supported below the canopy between a periphery of the canopy and a pinnacle of the canopy, and the umbrella further comprising an apparatus to allow the umbrella to be moved between an opened condition and a closed condition, the apparatus including said support means, said support means allowing the heater to be accommodated within the canopy when the umbrella is in said closed condition.

**[0007]** In known manner, the umbrella comprises support arms as part of the apparatus to allow the umbrella to be moved between its opened and closed conditions, the material of the canopy being held taut over the support arms when the umbrella is opened.

**[0008]** The present support means may be mounted from one of the support arms and may comprise a collapsible support bracket on which the heater may be mounted.

**[0009]** With one form of design of heater envisaged, the heater is substantially rectangular in shape with a longitudinal dimension significantly longer than a transverse dimension.

**[0010]** In such a case, the support bracket may incorporate means to allow the heater to swivel from between a position where the heater is substantially in line with the support arm above it to a position in which the longitudinal direction of the heater is substantially at right angles to the support arm. In the former position, the bracket can be collapsed against the support arm, there-

by allowing the heater to lie adjacent and in line with the support arm to permit the umbrella to be collapsed, whilst in the latter position, the bracket can be extended or pulled out away from the support arm in order to space the heater from the material of the canopy and to allow the heater to be rotated into its operative position.

**[0011]** It will be appreciated that as many support bars as required may be provided with such apparatus including the support means each to support a heater.

**[0012]** The invention extends to an umbrella essentially as defined above and incorporating at least one said heater.

**[0013]** The or each heater may have the features described above.

**[0014]** The or each heater may be an electric heater and preferably the heaters are quartz heaters.

**[0015]** In known fashion, the umbrella can incorporate an electricity supply for the or each heater, together with any desired control means.

**[0016]** For a better understanding of the invention and to show how the same may be carried into effect, reference will now be made, by way of example, to the accompanying drawings, in which:-

Fig. 1 is a diagrammatic side view, partly cut away, of part of an umbrella incorporating a heater, the umbrella and heater being shown in their opened and operative conditions, respectively,

Fig. 2 is a view similar to Fig. 1 but showing the heater moved into a position ready to allow the umbrella to be moved and folded to a closed condition,

Fig. 3 is a view of the umbrella in its closed condition, and

Fig. 4 is a detail view of the umbrella support means for the heater.

**[0017]** Referring to the drawings, Fig. 1 shows part of an umbrella that is of the type that is intended for use in patios and the like and includes a central support pole 1 mounted or anchored in a base structure (not shown), the umbrella having a canopy 2 supported by corner or support arms 3. An optional valance 4 is also provided. At least one electric heater 5 is provided that is supported below the canopy 3 by support means 6.

**[0018]** The support means 6 is in the form shown is a collapsible bracket 6 so that the heater 5 can be stowed for storage without requiring to remove the heater (Figs. 2 and 3) whilst allowing the heater 5 to be pulled or otherwise moved out, in the direction of the arrow A, clear of the material of the canopy 3, ready for use.

**[0019]** In one form of umbrella as an example, four such heaters 5 can be provided, one on every other support arm 3. An electrical connection 7 is diagrammatically shown in Fig. 1.

**[0020]** The or each heater may for example be an

electric quartz heater of 1,500W capacity.

**[0021]** It will be noted that the or each heater 5 is located below the canopy 2 towards or at the outer periphery of the canopy. In use, the heater 5 is clear of the canopy 3 and the valance 4. The or each heater 5 is pivotably mounted on its bracket 6 so that it can be rotated by 90° to its storage position as shown in Fig. 2.

**[0022]** As shown in Fig. 4, the bracket 6 includes a mounting bar 8 for bolting to one of the support arms 3 of the umbrella, a swivel mechanism 9 about which a bracket arm 10 may be swivelled to allow the heater to be pulled away or pushed towards its support arm 3, and a second swivel mechanism 11 to allow the heater 5 to be rotated preferably through 90° between a ready to be stowed position and its operative position.

**[0023]** Two catches are provided which can be in the form of spring loaded pull pins 12, 13, each of which locate in two positions. The pin 12 locates in a first position where the umbrella is fully open and the heater is in its pulled out position away from the support arm 3 and the second position is where the bracket 6 is fully closed up so that the heater 5 is retracted ready for the umbrella to be folded.

**[0024]** The stop locations of the pull pin 13 are firstly where the heater has been swivelled into its position ready to be operated and the second is where the heater 5 has been pivoted so as to come into line with the longitudinal direction of the support bar 3 ready for the umbrella to be folded.

**[0025]** In practice, only one catch, e.g. the pull pin 13, need be provided. Instead of the pull pin 12, the construction can be arranged so that the heater 5 on its bracket 6 automatically falls away from the support arm 3 as the umbrella is opened, in order to eliminate the possibility of the heater being switched on whilst still adjacent to the material of the canopy 2.

**[0026]** Also, in order to prevent the heater 5 from being inadvertently switched on, e.g. from a remote location whilst the umbrella is closed or at least whilst the support bracket 6 is in its collapsed condition with the heater adjacent the material of the canopy 2, the heater is provided with safety cut-out means such as a tilt switch.

**[0027]** Fig. 3 shows an example of the heater 5 on its bracket 6 safely inside the stowed umbrella fabric with the umbrella fully closed. Security measures may be provided with the umbrella to prevent unauthorised opening of the umbrella and/or theft of the heaters.

**[0028]** It will be appreciated that the present invention has a significant advantage over the prior art, in that time is no longer required at the beginning and end of each day to mount and dismount and electrically connect and disconnect the heaters. In particular, by placing the heaters towards the periphery of the canopy 3, this facilitates ease of use and accessibility of the present construction.

## Claims

1. An umbrella adapted to incorporate a heater (5), the umbrella comprising a canopy (2) and support means (6) from which the heater may be supported below the canopy between a periphery of the canopy and a pinnacle of the canopy, and the umbrella further comprising an apparatus to allow the umbrella to be moved between an opened condition and a closed condition, the apparatus including said support means (6), said support means allowing the heater to be accommodated within the canopy when the umbrella is in said closed condition.
2. An umbrella according to claim 1 and comprising support arms (3) forming part of the apparatus to allow the umbrella to be moved between its opened and closed conditions, the material of the canopy (2) being held taut over the support arms (3) when the umbrella is opened, wherein said support means (6) is mounted from one of the support arms.
3. An umbrella according to claim 1 or 2, wherein the support means comprises a collapsible support bracket (6) on which the heater (5) may be mounted.
4. An umbrella according to claim 3, wherein the bracket (6) incorporates means (12,13) to lock it in a collapsed position and/or in an extended position.
5. An umbrella according to claim 3 or 4, wherein the support bracket (6) incorporates means (9, 10) to allow the heater (5) to swivel between two positions and in which one of said positions the bracket can be collapsed against the support arm, thereby allowing, in use, the heater to lie adjacent the support arm (3) to permit the umbrella to be collapsed, whilst in the other position, the bracket can be extended or pulled out away from the support arm in order to space the heater from the material of the canopy and to allow the heater to be rotated into an operative position.
6. An umbrella according to any one of the preceding claims and incorporating at least one said heater (5).
7. An umbrella according to claim 6, wherein the or each heater (5) is substantially rectangular in shape with a longitudinal dimension significantly longer than a transverse dimension.
8. An umbrella according to claims 5 and 7, wherein when the bracket (6) is collapsed against the support arm, the heater (5) is swivelled to the position where the heater is substantially in line with the support arm to permit the umbrella to be collapsed.

9. An umbrella according to claim 6, 7 or 8, wherein the or each heater (5) is electrically operated.
10. An umbrella according to claim 9, wherein the electric heater (5) is a quartz heater. 5
11. An umbrella according to any one of claims 6 to 10, wherein the or each heater (5) is suspended from a respective support arm (3) in the region of or at the outer periphery of the canopy (2) of the umbrella. 10
12. An umbrella according to any one of claims 6 to 11, as appended to claim 3, wherein the or each heater (5) includes a safety cut-out means to prevent operation of that heater when the umbrella is in a collapsed condition and/or when the bracket (6) is in its collapsed condition. 15
13. An umbrella according to claim 12, wherein the safety cut-out means comprises a tilt switch. 20

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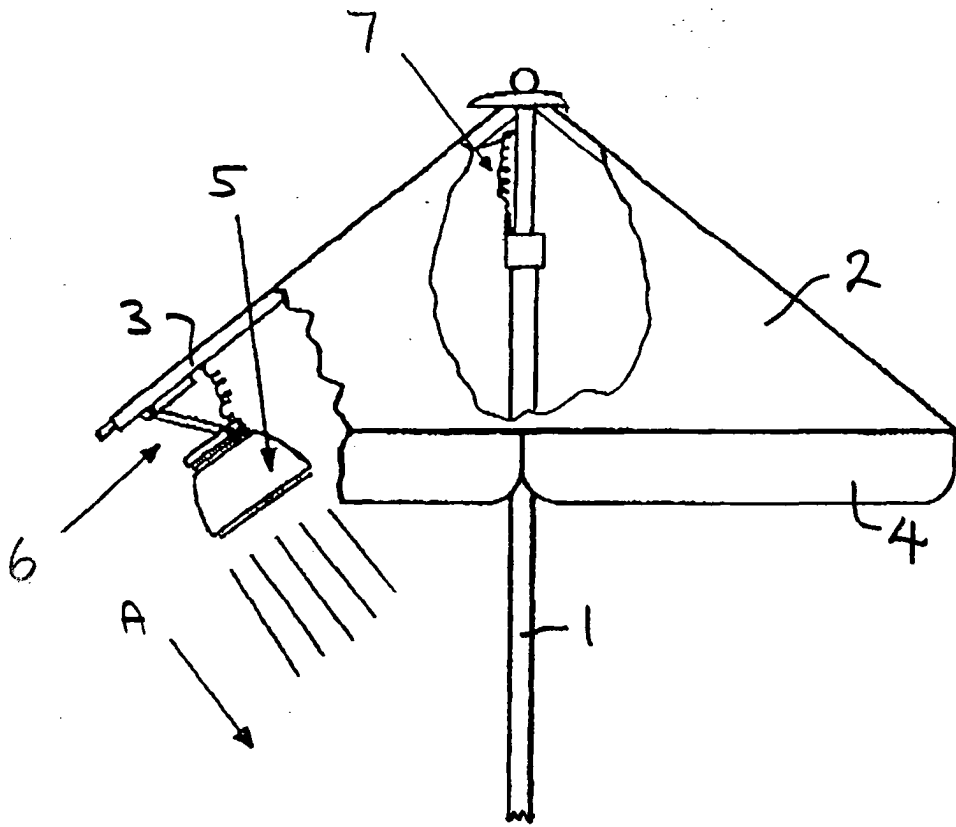


Figure 1

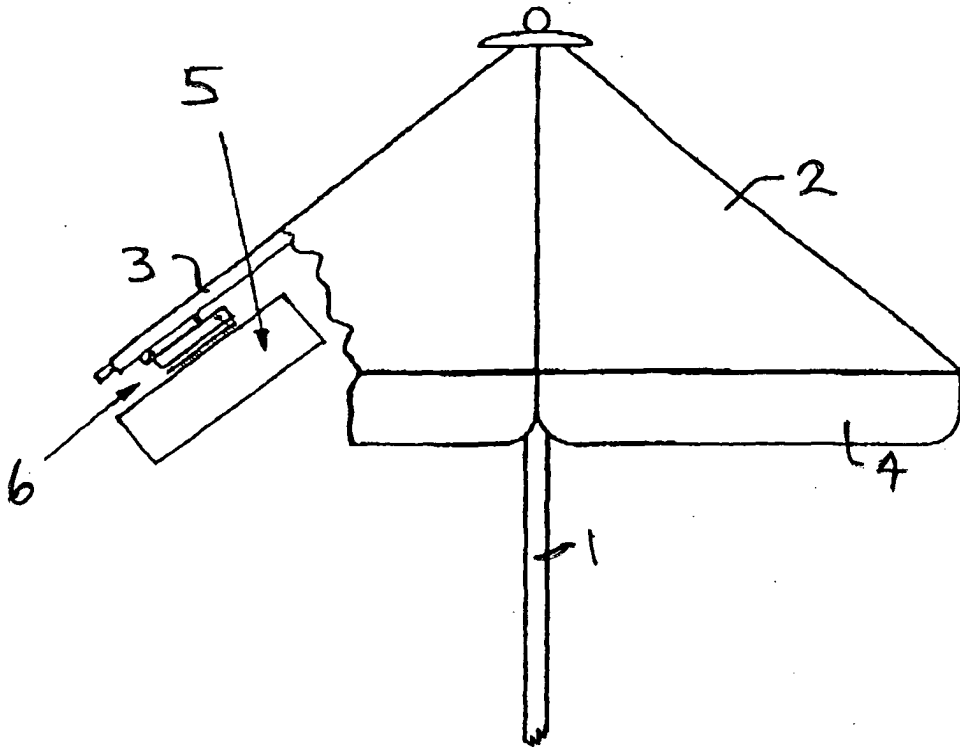


Figure 2

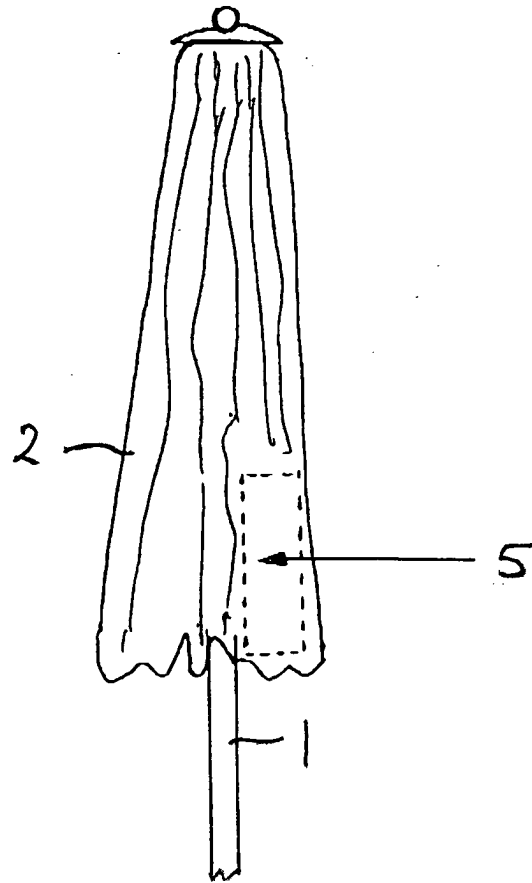


Figure 3

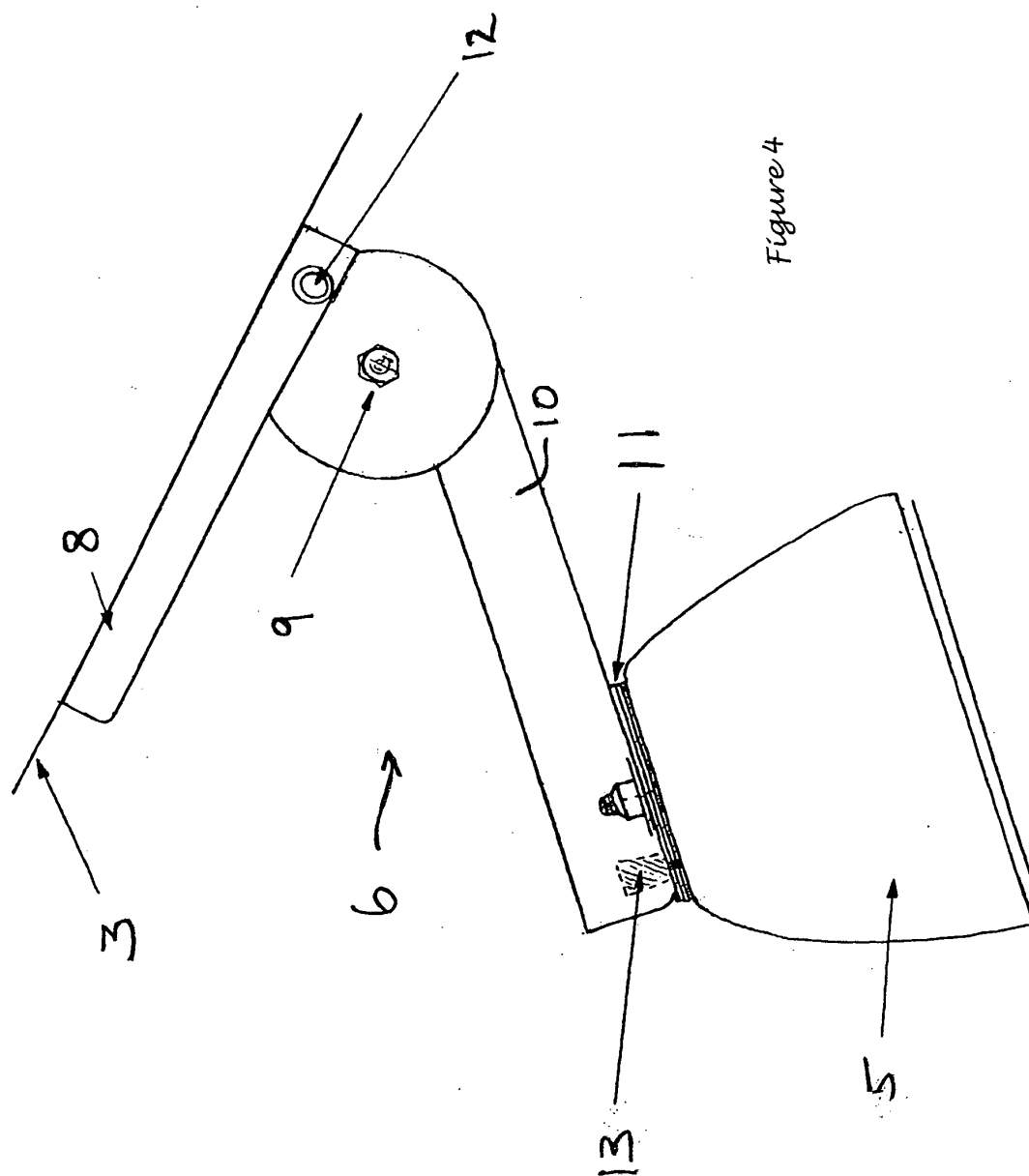


Figure 4





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Application Number  
EP 04 25 4666

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
P,X	DE 102 15 230 A (MAY ANTON) 16 October 2003 (2003-10-16) * paragraphs [0002], [0003], [0028]; claims; figures *	1,2,6,7, 9,10	A45B23/00
A	WO 02/24019 A (JACOBS ROBERTUS ANDREAS ANNA M) 28 March 2002 (2002-03-28) * page 1, line 1 - page 3, line 15; claims; figures *	1-13	
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A	US 6 336 450 B1 (COLLET JEAN) 8 January 2002 (2002-01-08) * abstract; claims; figures *	1-13	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		24 November 2004	Acerbis, G
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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EP 04 25 4666

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
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