

(Also referred to as FORM PTO - 1465)

**REQUEST FOR INTER PARTES REEXAMINATION TRANSMITTAL FORM**

Address to:

**Mail Stop Inter Partes Reexam**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, VA 22313-1450**

Attorney Docket No. 45639-316477

Date: August 12, 2005

1.  This is a request for *inter partes* reexamination pursuant to 37 CFR 1.913 of patent number 6,612,713 issued September 2, 2003. The request is made by a third party requester, identified herein below.
2.  a. The name and address of the person requesting reexamination is:  
Southern Sales & Marketing Group, Inc.  
4400 Commerce Circle  
Atlanta, Georgia 30336
- b. The real party in interest (37 CFR 1.915(b)(8)) is: Southern Sales & Marketing Group, Inc.
3.  a. A check in the amount of \$\_\_\_\_\_ is enclosed to cover the reexamination fee, 37 CFR 1.20(c)(2);  
 b. The Director is hereby authorized to charge the fee as set forth in 37 CFR 1.20(c)(2) to Deposit Account No. \_\_\_\_\_ (submit duplicate of this form for fee processing); or  
 c. Payment by credit card. Form PTO-2038 is attached.
4.  Any refund should be made by  check or  credit to Deposit Account No. 11-0855. 37 CFR 1.26(c). If payment is made by credit card, refund must be to credit card account.
5.  A copy of the patent to be reexamined having a double column format on one side of a separate paper is enclosed. 37 CFR 1.915(b)(5)
6.  CD-ROM or CD-R in duplicate, Computer Program (Appendix) or large table  
 Landscape Table on CD
7.  Nucleotide and/or Amino Acid Sequence Submission  
*If applicable, items a. - c. are required.*  
a.  Computer Readable Form (CRF)  
b. Specification Sequence Listing on:  
i.  CD-ROM (2 copies) or CD-R (2 copies); or  
ii.  paper  
c. Statements verifying identity of above copies
8.  A copy of any disclaimer, certificate of correction or reexamination certificate issued in the patent is included.
9.  Reexamination of claim(s) 1-5 is requested.
10.  A copy of every patent or printed publication relied upon is submitted herewith including a listing thereof on Form PTO/SB/08, PTO-1449 or equivalent.
11.  An English language translation of all necessary and pertinent non-English language patents or printed publications is included.


[Page 1 of 2]

This collection of information is required by 37 CFR 1.915. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Inter Partes Reexam, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

YOT-1003-0001

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

12. <input checked="" type="checkbox"/> The attached detailed request includes at least the following items:		
a. A statement identifying each substantial new question of patentability based on prior patents and printed publication. 37 CFR 1.915(b)(3)		
b. An identification of every claim for which reexamination is requested, and a detailed explanation of the pertinency and manner of applying the cited prior art to every claim for which reexamination is requested. 37 CFR 1.915(b)(1) and (3)		
13. <input checked="" type="checkbox"/> It is certified that the estoppel provisions of 37 CFR 1.907 do not prohibit this reexamination. 37 CFR 1.915(b)(7)		
14. <input checked="" type="checkbox"/> a. It is certified that a copy of this request has been served in its entirety on the patent owner as provided in 37 CFR 1.33(c).		
The name and address of the party served and the date of service are:		
James E. Walton, Esq.		
1169 N. Burseson Boulevard		
Burseson, Texas 76028		
Date of Service: August 11, 2005; or		
<input type="checkbox"/> b. A duplicate copy is enclosed since service on patent owner was not possible.		
15. <input checked="" type="checkbox"/> Correspondence Address : Direct all communication about the reexamination to:		
<input checked="" type="checkbox"/> The address associated with Customer Number:		23370
<b>OR</b>		
<input type="checkbox"/> Firm or Individual Name		
Address		
City	State	Zip
Country		
Telephone		Email
16. <input checked="" type="checkbox"/> The patent is currently the subject of the following concurrent proceeding(s):		
<input type="checkbox"/> a. Copending reissue Application No. _____.		
<input type="checkbox"/> b. Copending reexamination Control No. _____.		
<input type="checkbox"/> c. Copending Interference No. _____.		
<input checked="" type="checkbox"/> d. Copending litigation styled:		
<u>World Factory, Inc. v. Southern Sales &amp; Marketing Group, Inc. Civil Action No. 4:05-cv-00373, United States District Court for the Northern District of Texas/Fort Worth Division.</u>		
<b>WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</b>		
		August 12, 2005
Authorized Signature For Third Party Requester		Date
Robert E. Richards		29,105
Typed/Printed Name		Registration Number, if applicable

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In the Reexamination of:	)	
	)	
<b>Gregory G. Kuelbs</b>	)	
	)	
Patent No.: <b>6,612,713</b>	)	
	)	Examiner: To be assigned
Issued: <b>September 2, 2003</b>	)	
	)	
Assignee: <b>WORLD FACTORY, INC.</b>	)	

**REQUEST FOR *INTER PARTES* REEXAMINATION**

Mail Stop Ex Parte Reexam  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**I. Introduction**

Third party requester, Southern Sales & Marketing Group, Inc. (“Southern Sales”), hereby submits a Request for *Inter Partes* Reexamination, under the provisions of 37 C.F.R. §1.902 *et seq.*, of Claims 1-5 of the above-referenced U.S. Patent No. 6,612,713 (hereinafter the “’713 patent”) entitled “Umbrella Apparatus” issued to Gregory G. Kuelbs (“Kuelbs”) and assigned to World Factory, Inc. (“World Factory”) which has a place of business at 280 Commerce Street, Southlake, Texas 76092.

The ’713 patent is presently involved in litigation. On June 13, 2005, World Factory filed suit against Southern Sales for alleged infringement of the ’713 patent. The litigation is styled *World Factory, Inc. v. Southern Sales & Marketing Group, Inc.*, Civil Action No. 4:05-cv-00373, United States District Court for the Northern District of Texas, Fort Worth Division. World Factory has not yet served Southern Sales with a copy of the summons or complaint.

Express Mail mailing label number **EV334686467US**  
Date of Deposit **August 12, 2005**

YOT-1003-0003

Since the '713 patent is involved in litigation, Southern Sales respectfully requests that the requested *inter partes* reexamination proceeding be conducted with "special dispatch" as having priority over all other cases pursuant to 35 U.S.C. §305 and MPEP §2261.

It is believed that at least one "substantial new question of patentability" exists, as required by 35 U.S.C. 303 for a reexamination, for the reasons provided below. As further demonstrated below, Southern Sales has complied with all of the requirements for an *inter partes* reexamination. Accordingly, it is respectfully requested that an *inter partes* reexamination of the '713 patent, as requested herein, be granted.

## II. Requirements for an *Inter Partes* Reexamination

The requirements for an *inter partes* reexamination are set forth in 37 C.F.R. § 1.915 as follow:

**37 C.F.R. § 1.915(a):** The first requirement for an *inter partes* reexamination is the payment of the fee as set forth in 37 C.F.R. § 1.20(c)(2). In compliance with this requirement, Form PTO-2038 is enclosed herewith, authorizing a charge in the amount of \$8,800.00. Please charge any deficiency in the fee or credit any overpayment to Deposit Account Number 11-0855.

**37 C.F.R. § 1.915(b)(1):** The second requirement for an *inter partes* reexamination is an identification of the patent by patent number and every claim for which reexamination is requested. By this Request, Southern is requesting *inter partes* reexamination of Claims 1-5 of U.S. Patent No. 6,612,713.

**37 C.F.R. §1.915(b)(2) and (4):** The next requirement for an *inter partes* reexamination is a citation of the patents and printed publications which are presented to provide a substantial new question of patentability. Copies of the references relied upon and referenced in Sections 1.915(b)(1) through (3), including translations of non-English language documents, are also required. The patents and printed publications upon which Southern relies for this *inter partes* reexamination are as follows:

(1) U.S. Patent No. 5,584,564 (hereinafter “Phyle”) entitled “Battery Operated Lighting Apparatus,” issued December 17, 1996 to Charles E. Phyle, copy attached hereto as Exhibit 1. Phyle is not of record in the prosecution history of the ’713 patent.

(2) U.S. Patent No. 5,349,975 (hereinafter “Valdner”) entitled “Air Cooled Umbrella,” issued September 27, 1994 to Vimagda Valdner, copy attached hereto as Exhibit 2;

(3) PCT published patent application No. WO 93/00840 entitled “Multifunction Solar Parasol,” published January 21, 1993, copy attached hereto as Exhibit 3. An English translation of WO 93/00840 is attached hereto as Exhibit 4. WO 93/00840 is not of record in the prosecution history of the ’713 patent.

(4) U.S. Patent No. 5,172,711 (hereinafter “Mueller et al”) entitled “Combination Canopy and Fan,” issued December 22, 1992 to Erna Mueller and James Moores, copy attached hereto as Exhibit 5.

(5) U.S. Patent No. 6,017,188 (hereinafter “Benton”) entitled “Patio Table and Pole Fan Combination,” issued January 25, 2000 to Carolyn Benton, copy attached hereto as Exhibit 6.

**37 C.F.R. §1.915(b)(3):** The next requirement for an *inter partes* reexamination is a statement pointing out each substantial new question of patentability based on the cited patents and printed publications, and a detailed explanation of the pertinence and manner of applying the patents and printed publication to each claim for which reexamination is requested. Southern hereby provide its statement in compliance with this section below in Section III of this Request.

**37 C.F.R. §1.915(b)(5):** The next requirement for an *inter partes* reexamination is a copy of the entire patent including the front face, drawings, and specification/claims (in double column format) for which reexamination is requested. Southern is attaching such a copy of the '713 patent hereto as Exhibit 7.

**37 C.F.R. §1.915(b)(6):** The next requirement for an *inter partes* reexamination is a certification by the third party requester that a copy of the request has been served in its entirety on the patent owner at the address provided for in §1.33(c). The name and address of the party served must also be indicated. The undersigned hereby certifies compliance with the requirements of 37 C.F.R. §1.915(b)(6), as shown by the Certificate of Service attached to this Request.

**37 C.F.R. §1.915(b)(7):** The next requirement for an *inter partes* reexamination is a certification by the third party requester that the estoppel provisions of §1.907 do not prohibit this *inter partes* reexamination. The undersigned, on behalf of Southern, hereby certifies that the *inter partes* reexamination requested herein is not prohibited by the estoppel provisions of 37 C.F.R. §1.907.

**37 C.F.R. §1.915(b)(8):** The next requirement for an *inter partes* reexamination is a statement identifying the real party in interest to the extent necessary for a subsequent person

filing an *inter partes* reexamination request to determine whether that person is a privy. Southern is the third party requester herein and the real party in interest under 37 C.F.R. § 1.915(b)(8). Southern has its principal place of business at 4400 Commerce Circle, Atlanta, Georgia 30336.

**37 C.F.R. §1.915(c):** The last requirement for an *inter partes* reexamination is a Power of Attorney from the party on whose behalf the request is being filed. Southern Sales has granted power of attorney to the undersigned, as well as other members of the law firm identified below.

**Address for Correspondence:** Please address all correspondence as follows:

Robert E. Richards, Esq.  
Kilpatrick Stockton LLP  
1100 Peachtree Street, Suite 2800  
Atlanta, Georgia 30309  
404 815-6500 (phone)  
404 815-6555 (facsimile)  
richards@kilpatrickstockton.com

### **III. Statement Pointing Out Substantial New Questions of Patentability**

Pursuant to 37 C.F.R. § 1.915(b)(3), Southern hereby provides its statement pointing out the substantial new questions of patentability of the '713 patent based on the patents and printed publication referenced above, as well as Southern's detailed explanation of the pertinency and manner of applying those patents and printed publication to each of Claims 1-5 of the '713 patent.

#### **A. Prosecution of the '713 Patent**

U.S. patent application Serial No. 10/068,424 was filed on February 7, 2002 ("the '424 application") and claimed the benefit of provisional application Serial No.

60/335,933 filed November 2, 2001 and provisional application Serial No. 60/267,018 filed February 7, 2001. A copy of the prosecution file history is attached hereto as Exhibit 8. The '424 application was filed with twenty original claims. Original Claim 1 provided as follows:

1. An umbrella apparatus comprising:
  - a base support portion;
  - a pole portion coupled to the base support portion;
  - a canopy portion hingedly coupled to the pole portion;
  - a rechargeable electrical power system for providing electrical power to the umbrella apparatus; and
  - a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system.

On December 9, 2002 the Patent Office issued an Office Action (see Exhibit 8) allowing Claims 16-20, rejecting Claims 1-4, 13 and 14 and objecting to Claims 5-12 and 15. Claims 1, 4, 13 and 14 were rejected under 35 U.S.C. §102(b) as being completely anticipated and unpatentable over the patent to Mueller et al. (U.S. Patent No. 5,172,711). The Office Action stated that Mueller et al. disclosed an umbrella apparatus 80, a base portion 28', a pole portion 16' coupled to the base support portion 28', a canopy portion 12 hingedly coupled to the pole portion 16', and a rechargeable electric power system 26' providing electrical power to the umbrella apparatus 80. The Office Action also stated that Mueller et al. disclosed a solar system 82 carried by the pole portion 16 and positioned above



the canopy 12' for collecting solar energy and converting it into electrical energy, the solar energy system being conductively coupled to the rechargeable batteries 26'.

Claims 2 and 3 were rejected under 35 U.S.C. §103(a) as being obvious and unpatentable over the patent to Mueller et al. in view of the patent to Benton (U.S. Patent No. 6,017,188). The Office Action states that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the umbrella apparatus of Mueller et al. by providing positioning of a rechargeable electrical power system and a solar energy system as taught by Benton.

While indicating the allowability of Claims 5-12 and 15, the Office Action stated the prior art of record, including Mueller et al. and Benton, did not show or suggest the invention as claimed. The Office Action specifically stated that the prior art of record did not show:

- a rechargeable electrical power system rechargeable from an AC power outlet as recited in Claim 5;
- a lighting system carried by the canopy portion as recited in Claim 6;
- an electromechanical opening and closing [system for] the canopy as recited in Claim 10; and
- a cooling system a fluid reservoir, a mist nozzle hydraulically coupled to a pump as recited in Claim 15.

While indicating the allowance of Claims 16-20, the Office Action stated that the prior art of record, including Mueller et al. and Benton, did not show or suggest the applicant's invention as claimed. The Office Action specifically stated that the prior art of record did not show:

- a cooling system as recited in Claim 16;
- a lighting system carried by the canopy portion as recited in Claim 16; and

an electromechanical opening and closing canopy as recited in Claim 16.

The applicant responded to the Office Action on February 17, 2003 (see Exhibit 8). In response to the rejection of Claims 1, 4, 13 and 14 under 35 U.S.C. §102(b) and Claims 2 and 3 under 35 U.S.C. §103(a), the applicant cancelled those claims without disagreeing with the patent examiner's basis of rejection. The patent applicant amended Claims 5, 6 and 10 to incorporate all of the limitations of Claim 1 and put them in independent form. Claim 15 was amended to incorporate the limitations of Claims 1 and 13 and put it in independent form.

Following the cancellation and amendment of claims, as discussed above, the Patent Office issued a Notice of Allowance (see Exhibit 8). The Notice of Allowance indicated that Claims 5-12 and 15-20 were allowed<sup>1</sup>, and also contained the examiner's reasons for allowance of those claims. The examiner stated that the prior art of record, including Mueller et al. and Benton, did not show or suggest the applicant's invention as claimed and did not provide motivation to combine:

a rechargeable electrical power system rechargeable from an AC power outlet as recited in Claim 5;  
a lighting system carried by the canopy portion as recited in Claim 6;  
an electromechanical opening and closing [system for] the canopy as recited in Claim 10; and  
a cooling system a fluid reservoir, a mist nozzle hydraulically coupled to a pump as recited in Claim 15.

The Notice of Allowance also advised the patent applicant as follows:

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to

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<sup>1</sup> Because claims in the '424 application were cancelled, the claims in the '713 patent were renumbered.

avoid delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

On June 3, 2003 the patent applicant paid the issue fee, submitted an amended drawing and made minor amendments to the specification (see Exhibit 8). The patent applicant did not submit any comments on the examiner's reasons for allowance of the claims.

On July 28, 2003, the Patent Office approved the amendment of the specification (see Exhibit 8). Shortly thereafter, the '713 patent issued on September 2, 2003.

Regarding the independent claims that are the subject of this *inter partes* reexamination request; *i.e.*, Claims 1 and 2 (which were Claims 5 and 6 of the '424 application, the reasons for allowance given by the examiner were the absence of a teaching in Mueller et al. and Benton of a rechargeable electrical power system rechargeable from an AC power outlet (for patent Claim 1), and a lighting system carried by the canopy portion (for patent Claim 2).

**B. Claim 1 is invalid under 35 U.S.C. §103 in view of WO 93/00840 and Valdner**

Claim 1 of the '713 patent is invalid under 35 U.S.C. §103(a) as being obvious and unpatentable over WO 93/00840 in view of Valdner. It would have been obvious to a person of ordinary skill in the art to which the '713 patent pertains to provide the umbrella of WO 93/00840 with a rechargeable electrical power system rechargeable from an AC power outlet as taught by Valdner. Therefore, the combination of WO 93/00840 and Valdner raises a substantial new issue of patentability of Claim 1.

Claim 1 of the '713 patent provides as follows:

1. An umbrella apparatus comprising:
  - a base support portion;
  - a pole portion coupled to the base support portion;
  - a canopy portion hingedly coupled to the pole portion;
  - a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
  - a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and
  - an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet.

WO 93/00840 discloses an umbrella apparatus 1 comprising a base support portion 4 and a pole portion (*i.e.*, hollow mast 9) coupled to the base portion. A canopy portion 8 is hingedly coupled to the pole portion 9. These elements of Claim 1 of the '713 patent merely define the well known prior art construction of an umbrella, which is also clearly disclosed in WO 93/00840.

WO 93/00840 also discloses a solar energy system (*i.e.*, solar collector 2) carried by the pole portion 9 above the canopy portion 8. The rechargeable batteries 3 provide electrical energy to various accessories, especially a light 12. The solar energy system (*i.e.*, solar collector 2) is adapted to collect solar energy and convert it to electrical energy (*i.e.*, supply power). The solar collector 2 is connected to the rechargeable batteries 3

for the purpose of recharging them. The AC power cord 14 provides an alternate source of power; *i.e.*, alternate to the power provided by the rechargeable batteries 3.

WO 93/00840 describes the umbrella as follows:

During daylight, the solar collector(s), positioned on the upper part of the canopy of the parasol, recharge(s) the battery or batteries concealed in the base, which makes it possible for the user to have an independent source of energy for supplying power to the different accessories with which said parasol can be equipped, so that it can be used by day as a parasol and by night as a self-powered standing lamp for places such as: camp sites, gardens or the deck of swimming pools where electric power is generally not supplied.

WO 03/00840 English Translation at page 1.

Valdner discloses an air cooled umbrella 10. The umbrella 10 comprises a pole portion (*i.e.*, a rod 12) and a canopy 24 portion hingedly coupled to the pole portion. A rechargeable electrical power system (see Valdner Fig. 8), including a rechargeable handle battery pack 44, provides electrical power to the umbrella apparatus, such as the electric fan 30. A solar energy system (*i.e.*, solar cell panel 38) is carried by the pole portion 12 above the canopy 24. The solar cell panel 38 is adapted to collect solar energy and convert it to electrical energy. The solar cell panel 38 is conductively coupled to the rechargeable batteries in the rechargeable handle battery pack 44 (see Valdner Fig. 8). Electrical energy from the solar cell panel 38 is used to recharge the rechargeable batteries in the rechargeable handle battery pack 44 (see Valdner at col. 2, lines 37-43 and Fig. 8). Valdner also discloses an electrical charging system (*i.e.*, separate charger assembly 54) for recharging the rechargeable electrical power system (*id.*). The electrical charging system 54 is adapted to receive power from an AC power outlet; *i.e.*, “the separate charger assembly 54, which has

plugs 56 and 58 for respectively plugging into the rechargeable handle battery pack 44 and an electric house wall socket (not shown) as well known in the art..." (*id.*).

It would have been obvious to a person of ordinary skill in the art to which the '713 patent pertain at the time of the invention of the '713 patent to provide the multifunction solar umbrella of WO 93/00840 with the wiring system as taught in Fig. 8 of Valdner so that the rechargeable batteries of WO 93/00840 could be charged by either the solar collector 2 or the separate charger assembly of Valdner which is adapted to receive power from an AC power outlet. As noted in Valdner, this alternate AC charging system for the rechargeable batteries in the rechargeable handle battery pack 44 is "well known in the art." Thus, one skilled in the art would be motivated to provide the umbrella of WO 93/00840 with this well known alternate AC recharging system so that the rechargeable batteries 3 of WO 93/00840 could be recharged when there was insufficient electrical energy produced by the solar collector 2 to recharge the rechargeable batteries without having to remove them from the base 4.

Thus, Claim 1 of the '713 patent is invalid under 35 U.S.C. §103(a) as being obvious and unpatentable over WO 93/00840 in view of Valdner. Since WO 93/00840 is not of record in the '713 patent, the combination of WO 93/00840 and Valdner raises a substantial new issue of patentability of Claim 1 of the '713 patent.

**C. Claim 2 is invalid under 35 U.S.C. §103 in view of Mueller et al., Benton and Phyle**

Claim 2 of the '713 patent is invalid under 35 U.S.C. §103(a) as being obvious and unpatentable over Mueller et al. in view of Benton, as applied by the examiner during prosecution of the '713 patent, and further in view of Phyle. As the patent examiner noted

during prosecution of the '713 patent, the prior art of Mueller et al. in view of Benton disclosed all of the elements of Claim 2, except for a lighting system carried by the canopy portion of the umbrella. Phyle disclose a lighting system carried by the canopy portion of the umbrella. Therefore, the combination of Mueller et al., Benton and Phyle raises a substantial new issue of the patentability of Claim 2 of the '713 patent.

Claim 2 of the '713 patent provides as follows:

2. An umbrella apparatus comprising:
  - a base support portion;
  - a pole portion coupled to the base support portion;
  - a canopy portion hingedly coupled to the pole portion;
  - a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
  - a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and
  - a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system.

As the examiner in his reasons for granting the '713 patent noted, the combination of Mueller et al. and Benton provide all of the elements of Claim 2, except a lighting system carried by the canopy portion. Mr. Kuelbs, the inventor of the '713 patent, did not disagree with the examiner's stated reasons for allowance of Claim 2. However, Phyle discloses an umbrella with a battery powered lighting system carried by the canopy portion.

Therefore, Phyle provides this missing teaching of which the examiner was unaware when he allowed Claim 2 of the '713 patent.

The disclosures of Mueller et al. and Benton are discussed above and are incorporated herein by reference.

Phyle discloses an umbrella apparatus 1 including a base support portion (*i.e.*, the patio table, which does not carry a reference number). The umbrella 1 also includes a pole portion (*i.e.*, support pole 20) coupled to the base portion; *i.e.*, the patio table, and a canopy 2 portion which is hingedly coupled to the pole portion (see Phyle at col. 2, lines 58-67). The umbrella 1 also comprises a lighting system (*i.e.*, lighting device 12) carried by the canopy portion. As Phyle states at col. 3, lines 7-11:

As shown in FIG. 4, at least one lighting device 12 is secured to a rib 22 for providing light thereunder. In the preferred embodiment, lighting devices 12 having a substantially elongated configuration are used although other lighting device configurations are equally appropriate.

The lighting system (*i.e.*, lighting device 12) is conductively coupled to and powered by the electrical power system (*i.e.*, batteries 60 which provide power to the lighting device 12) (see Phyle at col. 3, lines 12-52). Phyle describes the lighting device 12 in more detail, at col. 4, lines 32-38, as follows:

The lighting device 12 includes a light wand 104 having a transparent outer sheath 106 and at least one elongated fluorescent filament element 108 located therein. This elongated configuration is particularly well suited for use in conjunction with the umbrella ribs 22 since its elongated arrangement enable the lighting devices 12 to remain secured to the ribs in any umbrella position.

The motivation for using the lighting device 12 of Phyle in an umbrella, such as in Benton, is disclosed by Phyle, *inter alia*, at col. 5, lines 1-8, as follows:



It will be appreciated that the lighting apparatus according to the present invention enable nighttime use of outdoor structures. It is particularly well suited for use in combination with a patio table umbrella where battery powered illumination under the canopy is desired. Moreover, the lighting apparatus of the present invention will not interfere with the movement of the umbrella canopy between a raised or lowered position.

Accordingly, a person skilled in the art would be motivated to use the lighting device 12 attached to the underside of the ribs 22 that support the canopy 2, as taught by Phyle, in the patio table umbrella of Benton so as to permit its nighttime use outdoor and to provide battery powered illumination under the canopy.

Thus, Claim 2 of the '713 patent is invalid under 35 U.S.C. §103(a) as being obvious and unpatentable over Mueller et al. in view of Benton, as applied by the patent examiner during prosecution of the '713 patent, and further in view of Phyle. Since Phyle is not of record in the '713 patent, the combination of Mueller et al., Benton and Phyle raises a substantial new issue of the patentability of Claim 2 of the '713 patent.

**D. Claim 2 is invalid under 35 U.S.C. §103 in view of WO 93/00840 and Phyle**

Claim 2 of the '713 patent is invalid under 35 U.S.C. §103(a) as being obvious and unpatentable over WO 93/00840 in view of Phyle. It would have been obvious to a person of ordinary skill in the art to which the '713 patent pertain at the time of the invention of the '713 patent to provide the multifunction umbrella of WO 93/00840 with the lighting devices 12 carried by the canopy portion, as taught by Phyle, instead of the light 12 of WO 93/00840, which is attached to the top portion of the pole support 8. Therefore, the combination of WO 93/00840 and Valdner raises a substantial new issue of patentability of Claim 2 of the '713 patent.

The disclosures of WO 93/00840 and Phyle are discussed above and are incorporated herein by reference.

WO 93/00840 alone discloses all of the elements of Claim 2, except for the lighting system carried by the canopy portion. WO 93/00840 discloses an umbrella apparatus 1 comprising a base support portion 4 and a pole portion 9 coupled to the base portion. A canopy portion 8 is hingedly coupled to the pole portion 9. A cord 6 and pulley 7 control the opening and closing of the canopy 8. WO 93/00840 also discloses a rechargeable electrical power system for providing electrical power to the umbrella apparatus (*i.e.*, rechargeable batteries 3 provide electrical energy to various accessories, especially a light 12). WO 93/00840 further discloses a solar energy system (*i.e.*, solar collector 2) carried by the pole portion 9 above the canopy portion 8. The solar energy system (*i.e.*, solar collector 2) is adapted to collect solar energy and convert it to electrical energy (*i.e.*, supply power). The solar collector 2 is connected to the rechargeable batteries 3 for the purpose of recharging them. The AC power cord 14 provides an alternate source of power; *i.e.*, alternate to the power provided by the rechargeable batteries 3. Lastly, WO 93/00840 discloses a lighting system conductively coupled to and powered by the rechargeable electrical power system (*i.e.*, the solar collector 2 supplies power, via the rechargeable batteries 3, to accessories, such as the light 12). Thus, WO 93/00840 discloses every element of Claim 2, except for the specific placement of the light.

Phyle discloses an umbrella 1 comprising a lighting system (*i.e.*, lighting device 12) carried by the canopy portion 2. As Phyle states at col. 3, lines 7-11:

As shown in FIG. 4, at least one lighting device 12 is secured to a rib 22 for providing light thereunder. In the preferred embodiment,

lighting devices 12 having a substantially elongated configuration are used although other lighting device configurations are equally appropriate.

Phyle further describes the lighting device 12 in more detail, at col. 4, lines 32-38, as follows:

The lighting device 12 includes a light wand 104 having a transparent outer sheath 106 and at least one elongated fluorescent filament element 108 located therein. This elongated configuration is particularly well suited for use in conjunction with the umbrella ribs 22 since its elongated arrangement enable the lighting devices 12 to remain secured to the ribs in any umbrella position.

The motivation for using the lighting device of Phyle in an umbrella, such as in WO 93/00840, is disclosed by Phyle, *inter alia*, at col. 5, lines 1-8, as follows:

It will be appreciated that the lighting apparatus according to the present invention enable nighttime use of outdoor structures. It is particularly well suited for use in combination with a patio table umbrella where battery powered illumination under the canopy is desired. Moreover, the lighting apparatus of the present invention will not interfere with the movement of the umbrella canopy between a raised or lowered position.

Thus, Claim 2 of the '713 patent is invalid under 35 U.S.C. §103(a) as being obvious and unpatentable over WO 93/00840 in view of Phyle. Since neither WO 93/00840 nor Phyle are of record in the '713 patent, the combination of WO 93/00840 and Phyle raises a substantial new issue of the patentability of Claim 2 of the '713 patent.

**E. Claim 2 is invalid under 35 U.S.C. §103 in view of Phyle and Valdner**

Claim 2 of the '713 patent is invalid under 35 U.S.C. §103(a) as being obvious and unpatentable over Phyle in view of Valdner. It would have been obvious to a person of ordinary skill in the art to which the '713 patent pertain at the time of the invention of the '713 patent to provide the patio umbrella of Phyle with the Solar powered rechargeable electrical system, as taught by Valdner, instead of the dry cell batteries 60 of Phyle. Therefore, the

YOT-1003-0019

combination of Phyle and Valdner raise a substantial new issue of the patentability of Claim 2 of the '713 patent.

The disclosures of Phyle and Valdner are discussed above and are incorporated herein by reference.

Phyle alone disclose all of the elements of Claim 2 of the '713 patent, except for the rechargeable electrical power system that is rechargeable with the solar energy system. Phyle discloses an umbrella apparatus 1 including a base support portion (*i.e.*, the patio table, which does not carry a reference number). The umbrella 1 also includes a pole portion (*i.e.*, support pole 20) coupled to the base portion (*i.e.*, the patio table) and a canopy 2 portion which is hingedly coupled to the pole portion (see Phyle at col. 2, lines 58-67). The umbrella 1 also comprises a lighting system (*i.e.*, lighting device 12) carried by the canopy portion 2. As Phyle states at col. 3, lines 7-11:

As shown in FIG. 4, at least one lighting device 12 is secured to a rib 22 for providing light thereunder. In the preferred embodiment, lighting devices 12 having a substantially elongated configuration are used although other lighting device configurations are equally appropriate.

The lighting system (*i.e.*, lighting device 12) is conductively coupled to and powered by the electrical power system (*i.e.*, batteries 60 which provide power to the lighting device 12) (see Phyle at col. 3, lines 12-52). Phyle describes the lighting device 12 in more detail, at col. 4, lines 32-38, as follows:

The lighting device 12 includes a light wand 104 having a transparent outer sheath 106 and at least one elongated fluorescent filament element 108 located therein. This elongated configuration is particularly well suited for use in conjunction with the umbrella ribs 22 since its elongated arrangement enable the lighting devices 12 to remain secured to the ribs in any umbrella position.

Valdner discloses an air cooled umbrella 10. The umbrella 10 comprises a pole portion (*i.e.*, a rod 12) and a canopy 24 portion hingedly coupled to the pole portion. A rechargeable electrical power system (see Valdner Fig. 8), including a rechargeable handle battery pack 44, provides electrical power to the umbrella apparatus, such as the electric fan 30. A solar energy system (*i.e.*, solar cell panel 38) is carried by the pole portion 12 above the canopy 24. The solar cell panel 38 is adapted to collect solar energy and convert it to electrical energy. The solar cell panel 38 is conductively coupled to the rechargeable batteries in the rechargeable handle battery pack 44 (see Valdner Fig. 8). Electrical energy from the solar cell panel 38 is used to recharge the rechargeable batteries in the rechargeable handle battery pack 44 (see Valdner at col. 2, lines 37-43 and Fig. 8).

One would be motivated to provide the umbrella of Phyle with the rechargeable batteries of Valdner for the obvious convenience of not having to change the dry cell batteries of Phyle when their power is exhausted. One would be further motivated to provide the umbrella of Phyle with the solar cell panel of Valdner to recharge the rechargeable batteries for the same reasons as Valdner.

Thus, Claim 2 of the '713 patent is invalid under 35 U.S.C. §103(a) as being obvious and unpatentable over Phyle in view of Valdner. Since Phyle is not of record in the '713 patent, the combination of Phyle and Valdner raises a substantial new issue of patentability of Claim 2 of the '713 patent.

**F. Claim 5 is invalid under 35 U.S.C. §103 in view of Phyle**

Claim 5 of the '713 patent is a dependent claim which depend from independent Claim 2. Claim 2 is invalid for the reasons set forth above.

Claim 5 of the '713 patent provides as follows:

5. The umbrella apparatus according to claim 2, wherein the lighting system comprises:  
a plurality of rib members coupled to the canopy portion;  
and  
a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power source.

Thus, Claim 5 merely defines the lighting system of Claim 2 more specifically.

In each of the three grounds set forth above for the invalidity of Claim 2, Phyle is utilized to provide the lighting system orientation. Phyle also discloses the elements of Claim 5. Thus, Claim 5 is invalid under 35 U.S.C. §103 on the same basis as set forth above under Sections III(B) through (E).

In Phyle, the lighting system comprises a plurality of ribs 22 coupled to the canopy 2 (see Phyle Fig. 1). Phyle also discloses a plurality of light devices 12 carried by the ribs 22. As Phyle states at col. 3, lines 7-11:

As shown in FIG. 4, at least one lighting device 12 is secured to a rib 22 for providing light thereunder. In the preferred embodiment, lighting devices 12 having a substantially elongated configuration are used although other lighting device configurations are equally appropriate.

Phyle describes that the lighting devices 12 include at least one fluorescent element 108, at col. 4, lines 32-38, as follows:

The lighting device 12 includes a light wand 104 having a transparent outer sheath 106 and at least one elongated fluorescent filament element 108 located therein. This elongated configuration is particularly well suited for use in conjunction with the umbrella ribs 22 since its elongated arrangement enable the lighting devices 12 to remain secured to the ribs in any umbrella position.

By reference to Fig. 1 of Phyle, it can be seen that the umbrella 1 includes six lighting device 12. One lighting device 12 is secured to every other rib 22. Thus, Phyle discloses a plurality of fluorescent light elements 108 carried by the rib members 22.

Thus, Claim 5 of the '713 patent is invalid under 35 U.S.C. §103(a) as being obvious and unpatentable over any of (1) Mueller et al. in view of Benton, as applied by the patent examiner during prosecution of the '713 patent, and further in view of Phyle, (2) WO 93/00840 in view of Phyle, or (3) Phyle in view of Valdner. Since Phyle is not of record in the '713 patent, the combination of Phyle and any of the references listed above raises a substantial new issue of patentability of Claim 5 of the '713 patent.

**G. Claims 3 and 4 Stand or Fall with Claim 5**

Claims 3 and 4 of the '713 patent are dependent claims which depend from independent Claim 2. Claims 3 and 4 provide as follows:

3. The umbrella apparatus according to claim 2, wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion;  
and

a plurality of cold cathode tube elements carried by the rib members, each cold cathode tube element being conductively coupled to and powered by the rechargeable electrical power source.

4. The umbrella apparatus according to claim 2, wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion;  
and

a plurality of light emitting diode elements carried by the rib members, each light emitting diode element being conductively coupled to and powered by the rechargeable electrical power source.

Claims 3 and 4 differ from Claim 5 only in the definition of the type of lighting element used. Claim 5 specifies that the lighting element is a fluorescent light; Claim 3 specifies that the lighting element is a cold cathode tube; and Claim 4 specifies that the lighting element is a light emitting diode (better know as an “LED”).

As stated above, the lighting device 12 in Phyle is a fluorescent light element 108. The substitution of a cold cathode tube or an LED for the fluorescent light of Phyle is not of patentable consequence. It would have been obvious to a person skilled in the art that any one of a cold cathode tube or an LED could be used for the fluorescent light element 108 of Phyle. In fact, Phyle states that other types of lighting devices are equally appropriate:

As shown in FIG. 4, at least one lighting device 12 is secured to a rib 22 for providing light thereunder. In the preferred embodiment, lighting devices 12 having a substantially elongated configuration are used although other lighting device configurations are equally appropriate. (Emphasis added).

Phyle at col. 3, lines 7-11.

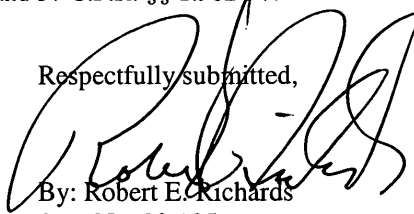
Thus, Claims 3 and 4 of the '713 patent are invalid on the same bases as Claim 5; *i.e.*, under 35 U.S.C. §103(a) as being obvious and unpatentable over any of (1) Mueller et al. in view of Benton, as applied by the patent examiner during prosecution of the '713 patent, and further in view of Phyle, (2) WO 93/00840 in view of Phyle, or (3) Phyle in view of Valdner. Since Phyle is not of record in the '713 patent, the combination of Phyle and any of the references listed above raises a substantial new issue of patentability of Claims 3 and 4 of the '713 patent.



#### IV. CONCLUSION

In view of the foregoing, Southern Sales respectfully requests consideration of this Request for *Inter Partes* Reexamination and that reexamination of the '713 patent be granted in conformity with 35 U.S.C. §§ 311-18 and 37 C.F.R. §§ 1.902-97.

Respectfully submitted,



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Reg. No. 29,105

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Our Docket No. 45639-316477

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

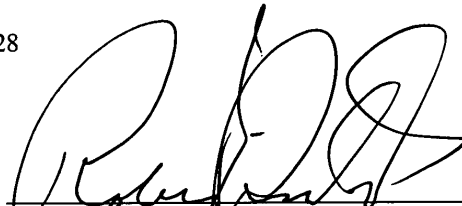
In the Reexamination of:	)	
	)	
<b>Gregory G. Kuelbs</b>	)	
	)	
Patent No.: <b>6,612,713</b>	)	
	)	Examiner: To be assigned
Issued: <b>September 2, 2003</b>	)	
	)	
Assignee: <b>WORLD FACTORY, INC.</b>	)	

**CERTIFICATE OF SERVICE**

This is to certify that I have this day served a true and correct copy of the foregoing "Request for *Inter Partes* Reexamination" by depositing same in the United States mail, properly addressed with sufficient postage affixed thereto to ensure delivery to:

James E. Walton, Esq.  
1169 N. Burleson Boulevard  
Suite 107-328  
Burleson, Texas 76028

This 12th day of August, 2005.



Robert E. Richards



US006612713B1

(12) **United States Patent**  
**Kuelbs**

(10) **Patent No.:** US 6,612,713 B1  
(45) **Date of Patent:** Sep. 2, 2003

- (54) **UMBRELLA APPARATUS**
- (75) **Inventor:** Gregory G. Kuelbs, Westlake, TX (US)
- (73) **Assignee:** World Factory, Inc., Southlake, TX (US)
- (\*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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5,463,536 A		10/1995	Chou et al.	362/102

\* cited by examiner

- (21) **Appl. No.:** 10/068,424
- (22) **Filed:** Feb. 7, 2002

**Related U.S. Application Data**

- (60) Provisional application No. 60/335,933, filed on Nov. 2, 2001, and provisional application No. 60/267,018, filed on Feb. 7, 2001.
- (51) **Int. Cl.<sup>7</sup>** ..... A45B 23/00
- (52) **U.S. Cl.** ..... 362/102; 362/96; 362/209; 362/276
- (58) **Field of Search** ..... 362/96, 102, 577, 362/209, 276

(56) **References Cited**  
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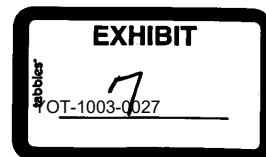
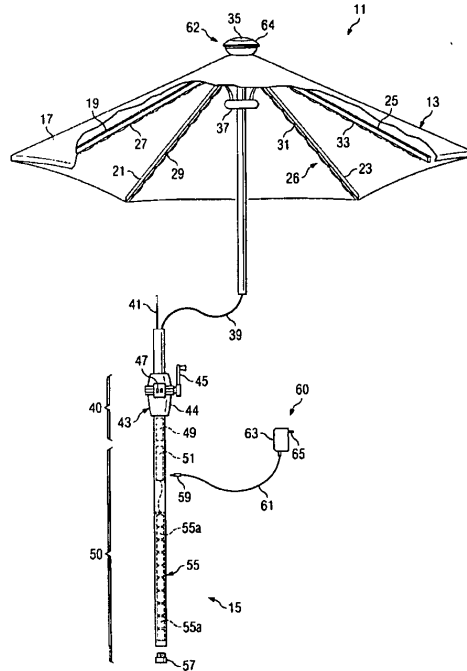
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*Assistant Examiner*—Hargobind S. Sawhney  
(74) *Attorney, Agent, or Firm*—James E. Walton; Melvin A. Hunn; Hill & Hunn LLP

(57) **ABSTRACT**

A lawn or patio umbrella with an integral lighting system that utilizes cold cathode ray tubes, light emitting diodes (LED’s), or florescent lights, to provide relatively bright outdoor light for reading and other activities that require relatively high light intensities is provided. In one embodiment, a modular, electrically powered lawn or patio umbrella in which lighting systems, such as those utilizing cold cathode tubes, LED’s, or florescent lights; cooling systems, such as those utilizing electric fans or misting systems; and motorized retraction systems; can be selectively interchanged is provided.

14 Claims, 11 Drawing Sheets



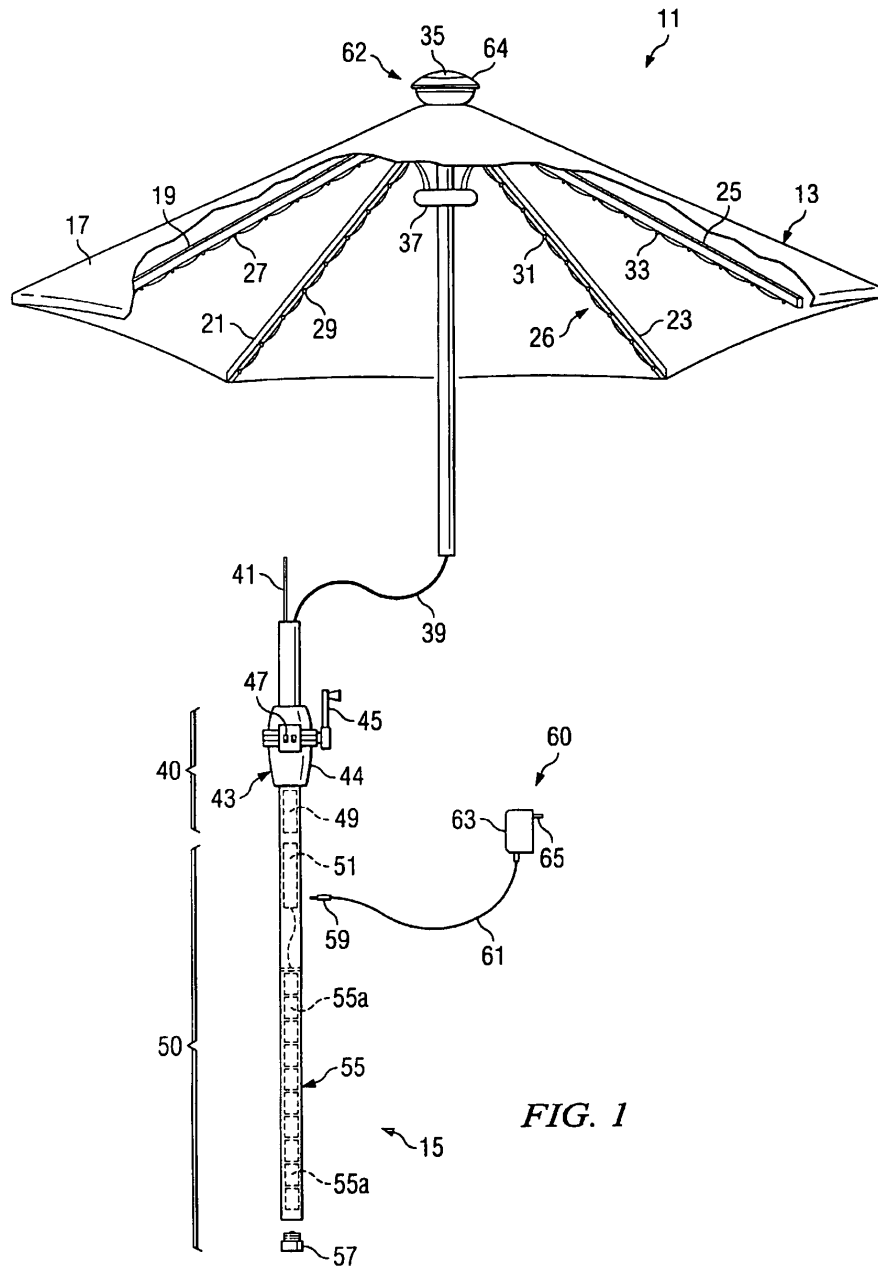


FIG. 1

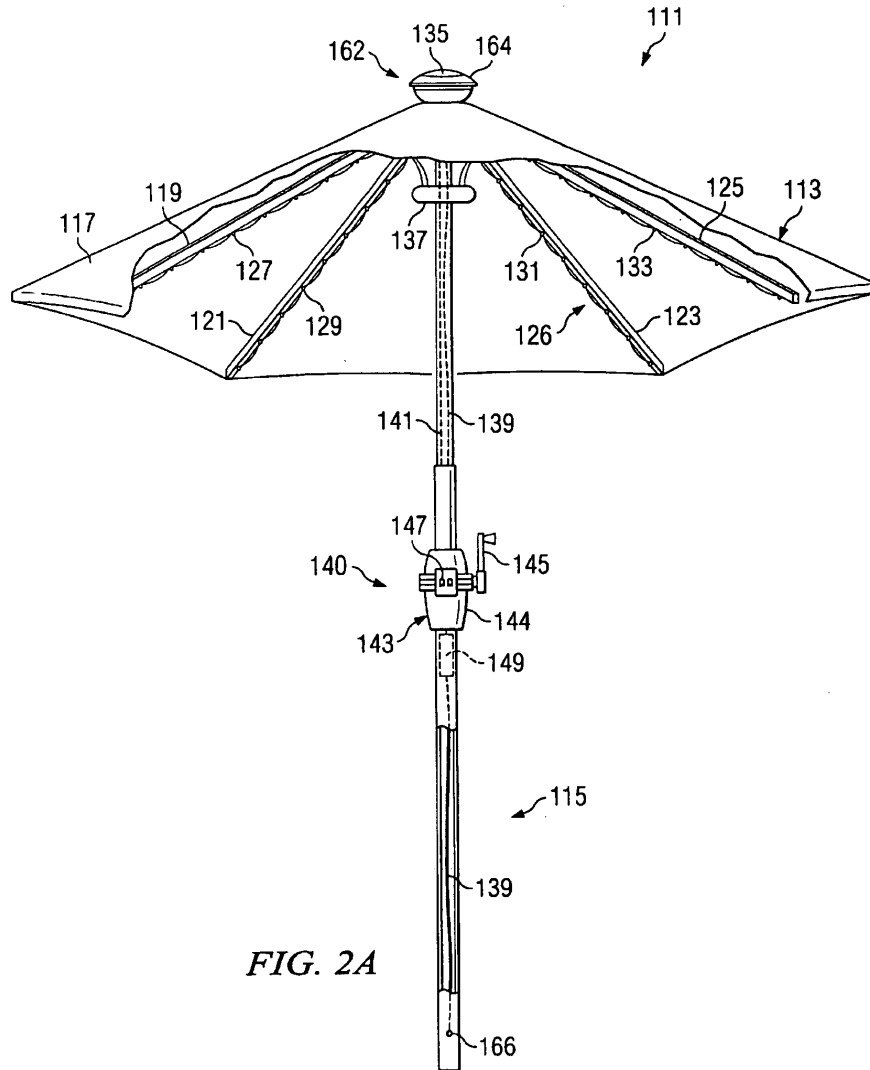
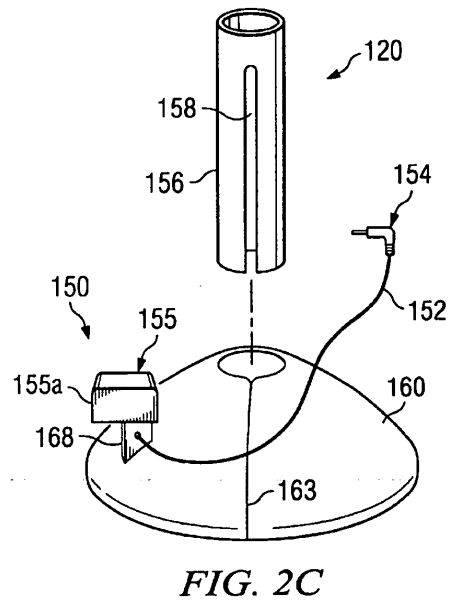
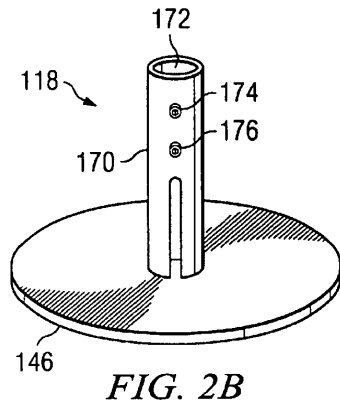


FIG. 2A



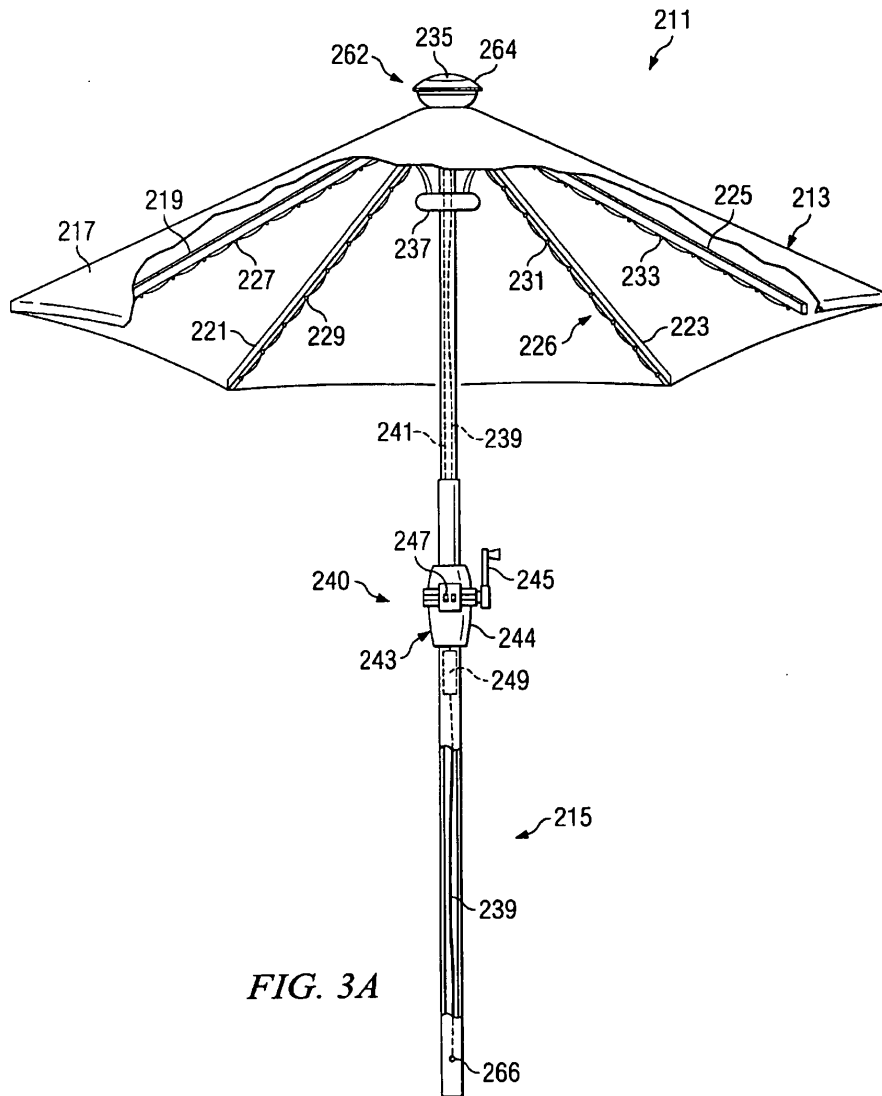


FIG. 3A

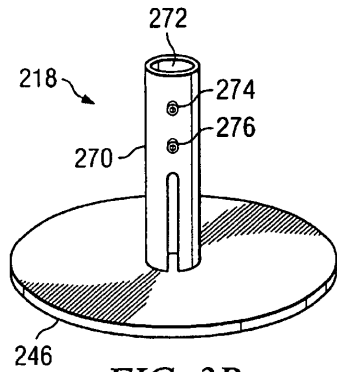


FIG. 3B

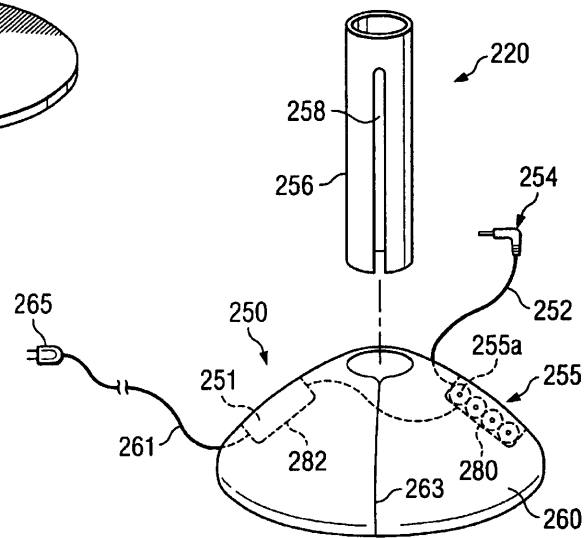


FIG. 3C

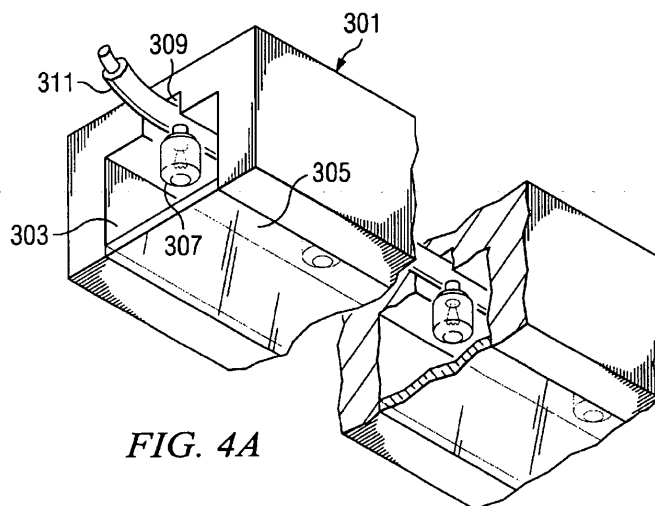


FIG. 4A



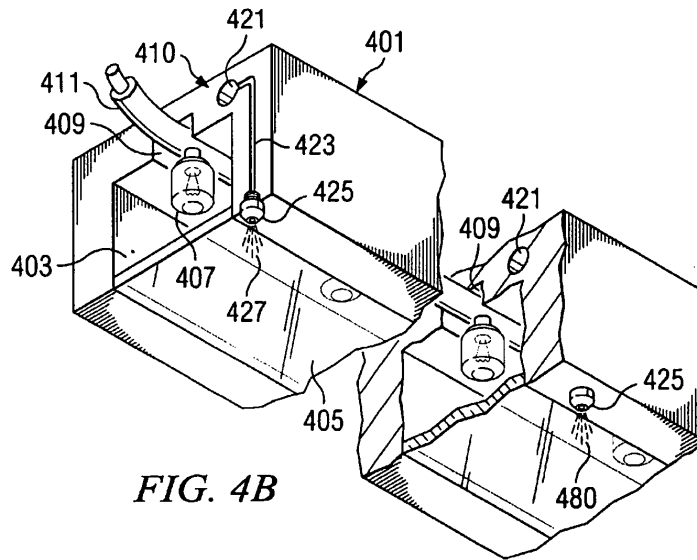


FIG. 4B

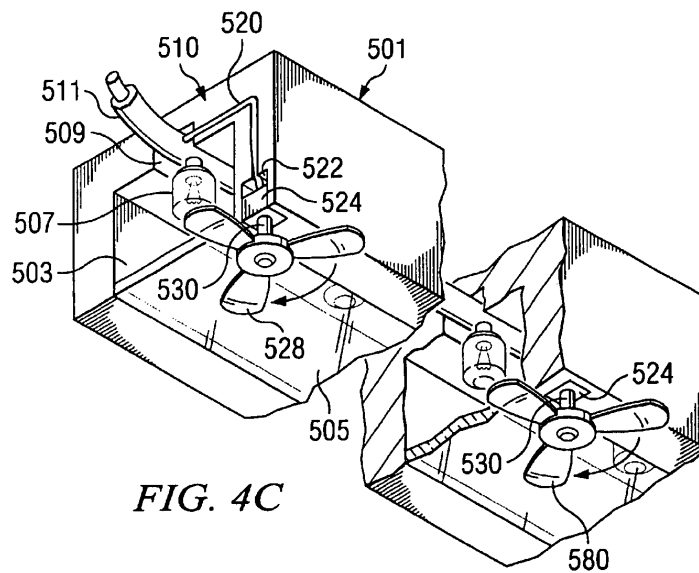


FIG. 4C

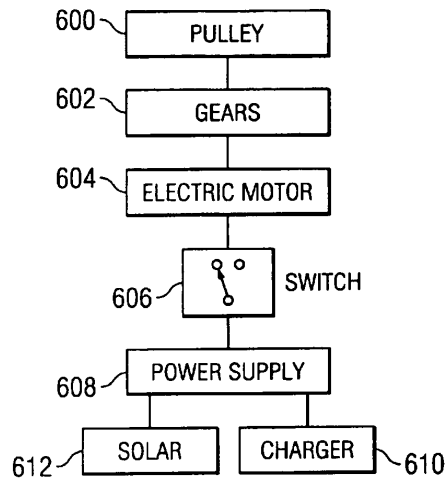


FIG. 5A

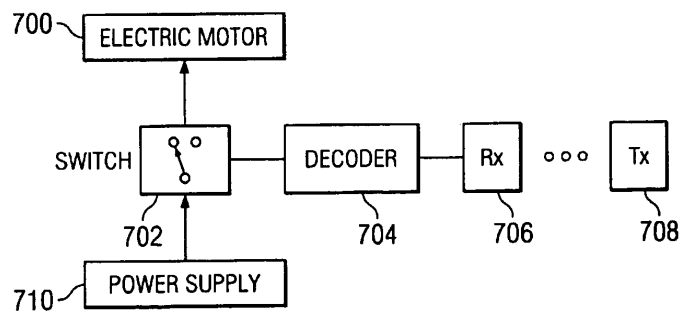


FIG. 5B

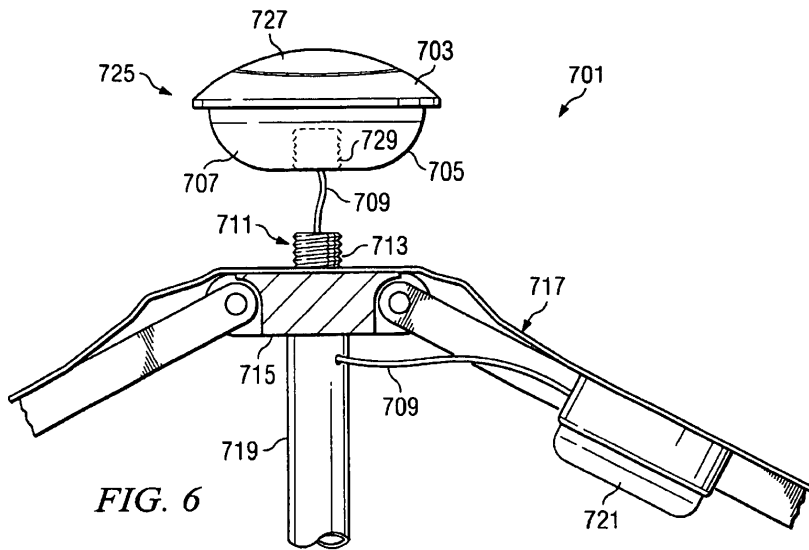


FIG. 6

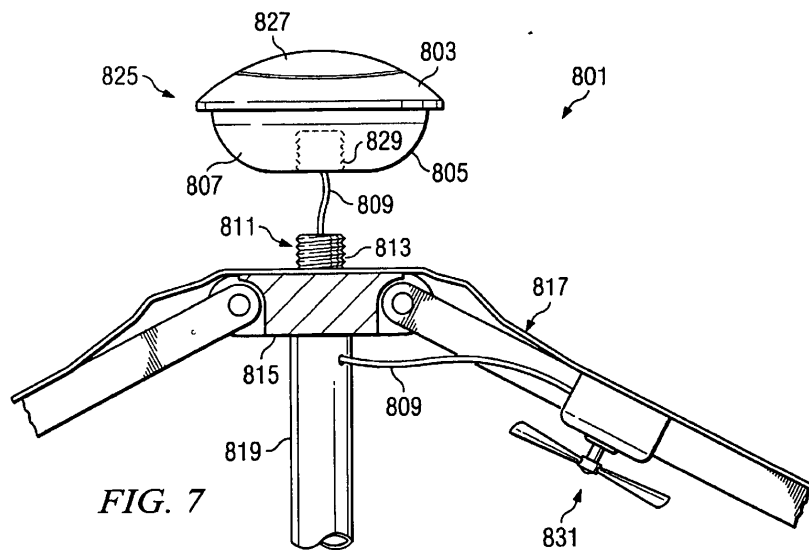
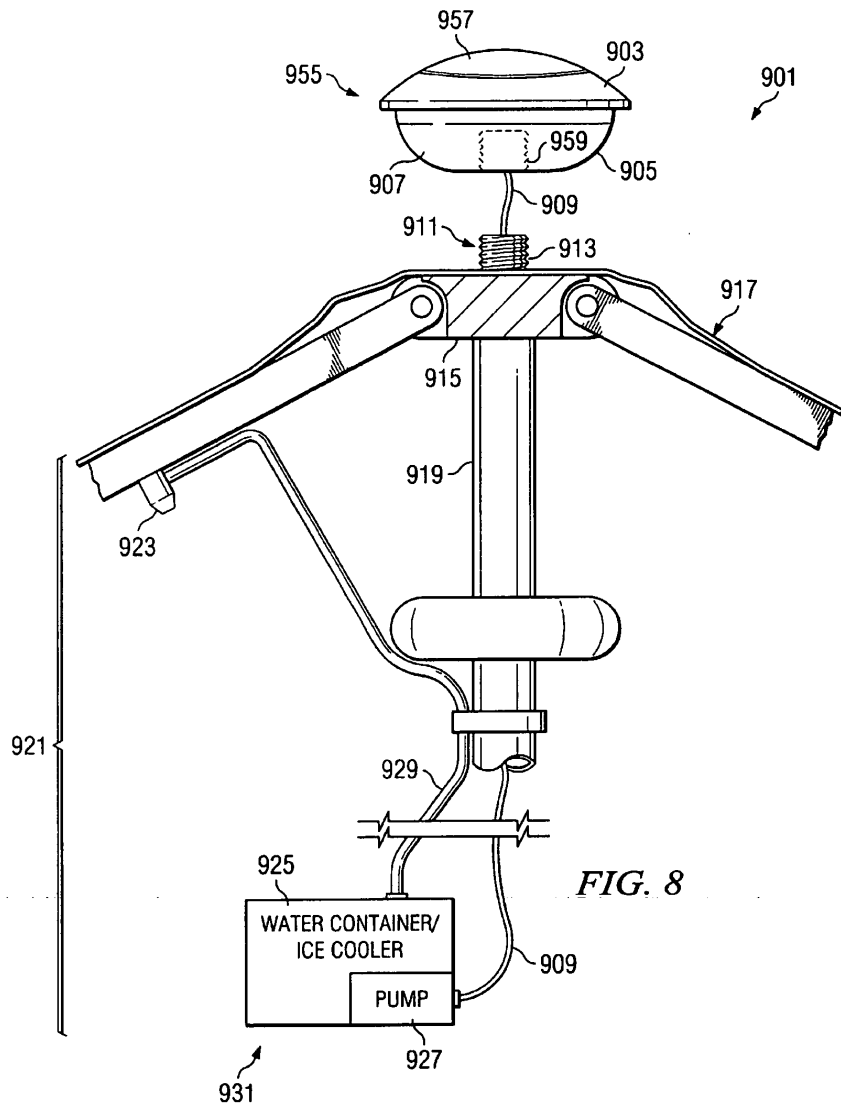


FIG. 7



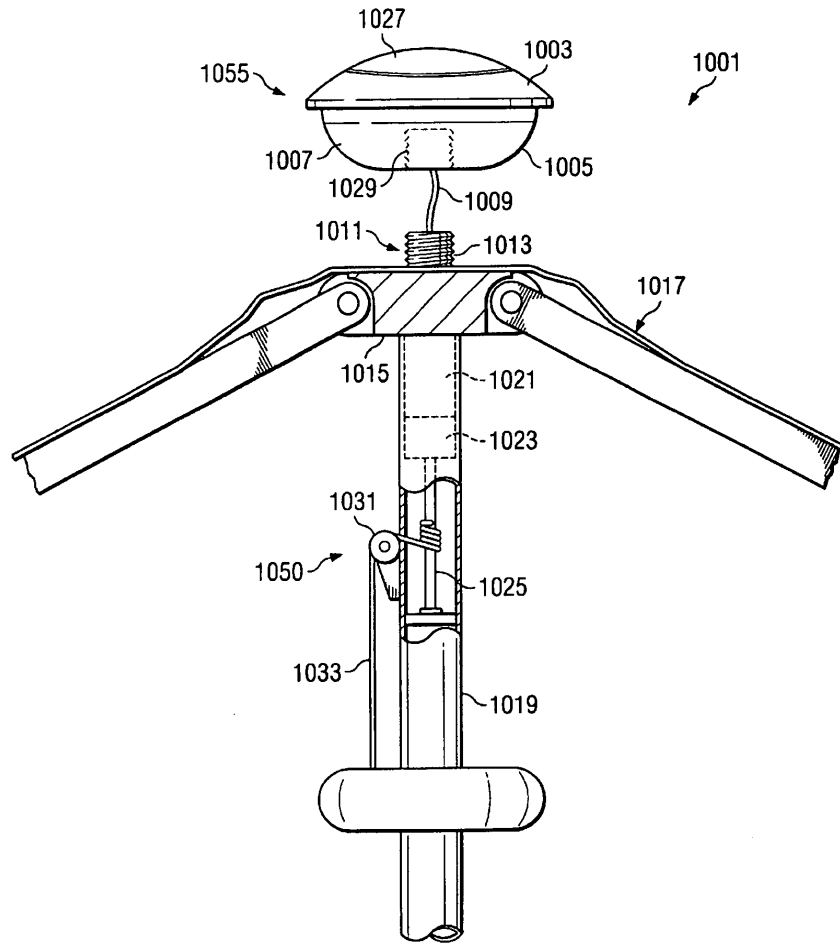


FIG. 9

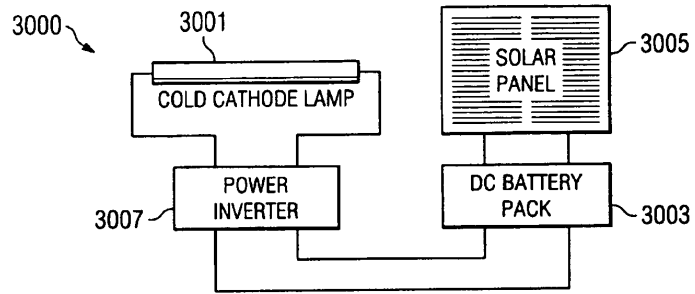


FIG. 10

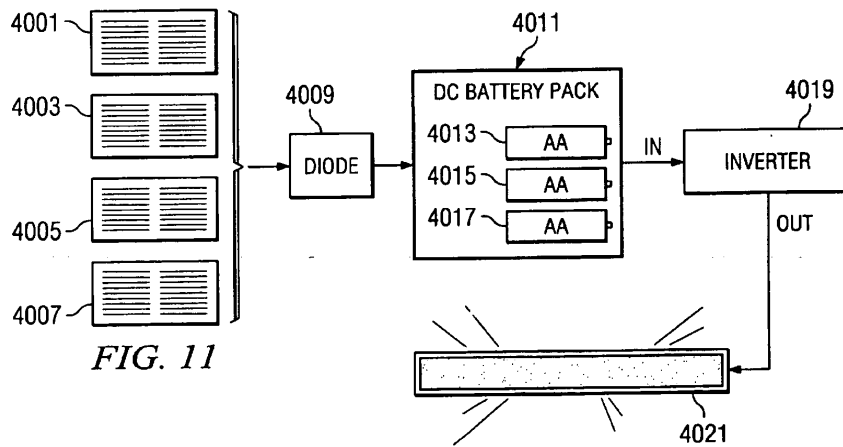


FIG. 11

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**UMBRELLA APPARATUS**

This application claims the benefit of U.S. Provisional Application No. 60/267,018, filed Feb. 7, 2001, titled "Lighted Patio Umbrella Apparatus;" and of U.S. Provisional Application No. 60/335,933, filed Nov. 2, 2001, titled "Outdoor Lighting Systems with Cold Cathode Tubes."

**BACKGROUND OF THE INVENTION****1. Field of the Invention**

The present invention relates in general to patio umbrellas, and in particular, to an improved patio umbrella with integral lighting system and other modular electronic systems and components.

**2. Description of the Prior Art**

There has been a recent increase in the interest in entertaining in a lawn and garden environment. Patio furniture is quite popular and useful for outdoor entertaining, especially in portions of the country that have warmer climates. However, the sun often presents an impediment to such outdoor entertaining. Consequently, sales have increased for relatively large patio and table umbrellas for use in shielding or shading table areas and people sitting around the tables from direct exposure to the sunlight. Given the relatively high degree of interest in patio umbrellas, it is likely that improved umbrellas, or umbrellas with enhanced functions, will be well received in the marketplace.

**SUMMARY OF THE INVENTION**

It is one objective of the present invention to provide a lawn or patio umbrella with an integral lighting system that utilizes cold cathode tubes, light emitting diodes (LED's), or florescent lights, to provide relatively bright outdoor light for reading and other activities that require relatively high light intensities.

It is another objective of the present invention to provide a lawn or patio umbrella with an integral lighting system that utilizes cold cathode tubes, LED's, or florescent lights, to provide relatively bright outdoor light, and its own rechargeable power supply, including solar cells.

It is yet another objective of the present invention to provide a lawn or patio umbrella with an integral lighting system that utilizes cold cathode tubes, LED's, or florescent lights, to provide relatively bright outdoor light, and a motorized retraction system that aids in opening and closing the umbrella.

It is yet another objective of the present invention to provide a lawn or patio umbrella with an integral lighting system that utilizes cold cathode tubes, LED's, or florescent lights, to provide relatively bright outdoor light, and a cooling system, such as one that utilizes electric fans or misting systems.

It is yet another objective of the present invention to provide a modular, electrically powered lawn or patio umbrella in which lighting systems, such as those utilizing cold cathode tubes, LED's, or florescent lights; cooling systems, such as those utilizing electric fans or misting systems; and motorized retraction systems; can be selectively interchanged.

The above objects are achieved, for example, by integrating a rechargeable power system, a lighting system, a motorized retraction system, and/or a cooling system into a relatively large patio umbrella. The resulting umbrella does not have to be connected to a household electrical system, is a relatively low power consuming device, does not generate

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much heat, provides a high amount of light intensity, reduces the overall energy consumption of outdoor lighting, allows for fewer batteries to be utilized in each lighting fixture, allows for easier recharging of the batteries due to the lower power requirements, and allows the utilization of smaller photovoltaic solar cells.

In the embodiment that utilizes a cold cathode tube, one additional advantage is that the cold cathode tube may be operated at multiple voltage levels to provide differing amounts of light output. In one particular embodiment, a wireless receiver and transmitter pair may be utilized to allow an operator to use a wireless command signal to change the operating state of the lighting system, such as switching the system between an on and off condition, and switching the system between varying levels of light output. Accordingly, an operator may intensify the light output from the lighting system through use of a wireless handheld transmitter when he wants additional light from a particular umbrella.

**BRIEF DESCRIPTION OF THE DRAWINGS**

The novel features believed characteristic of the invention are set forth in the appended claims. However, the invention itself, as well as a preferred mode of use and further objectives and advantages thereof, will best be understood by reference to the following detailed description of the preferred embodiment when read in conjunction with the following drawings.

FIG. 1 is a fragmentary and sectional view of the preferred embodiment of the lighted umbrella with motorized opening and closing system according to the present invention.

FIGS. 2A, 2B, and 2C are pictorial, fragmentary, and section views of an alternate embodiment of the present invention which is directed to a lighted umbrella with a stand and a single battery and removable base cover.

FIGS. 3A, 3B, and 3C are pictorial, fragmentary, and partial section views of another alternate embodiment of the present invention which is directed to a lighted umbrella with a stand, charger, batteries, and removable battery cover.

FIG. 4A is a fragmentary and sectional view of another alternate embodiment of the present invention which is directed to a lighted umbrella with recessed lighting.

FIG. 4B is a fragmentary and sectional view of another alternate embodiment of the present invention which is directed to a lighted umbrella with integral misting system.

FIG. 4C is a fragmentary and sectional view of another alternate embodiment of the present invention which is directed to a lighted umbrella with an integral fan system.

FIG. 5A is a block diagram representation of the motorized opening and closing system of the umbrella of FIG. 1 and of the other embodiments of the umbrella of the present invention.

FIG. 5B is a block diagram representation of an alternate embodiment of the motorized opening and closing system of FIG. 5A.

FIG. 6 is a simplified schematic of an alternative embodiment of the present invention which is directed to a lighted umbrella with a top-mounted power unit and a cold cathode tube lighting system.

FIG. 7 is a simplified schematic of an alternative embodiment of the present invention which is directed to an umbrella with a top-mounted power unit and an electric fan cooling system.

FIG. 8 is a simplified view of an alternative embodiment of the present invention which is directed to an umbrella with a top-mounted power unit and a mist producing cooling system.

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FIG. 9 is a simplified schematic of an alternate embodiment of the present invention that is directed to an umbrella with a top-mounted power unit and a motorized opening and closing system.

FIG. 10 is a schematic of one broad implementation of the present invention.

FIG. 11 is a block diagram representation of the present invention.

#### DETAILED DESCRIPTION OF THE INVENTION

Referring to FIG. 1 in the drawings, one embodiment of an umbrella apparatus according to the present invention is illustrated. Umbrella apparatus 11 includes an umbrella portion 13 and a hollow tubular pole portion 15. Pole portion 15 is coupled to and supports umbrella portion 13. Umbrella portion 13 is preferably retractable and may be moved between a raised, or expanded open position, which is shown; and a lowered, or retracted, closed position in which umbrella portion 13 is collapsed down about pole portion 15, as is conventional. A flexible canopy 17 is attached to and covers umbrella portion 15. Canopy 17 is supported by a plurality of rib members 19, 21, 23, and 25. Rib members 19, 21, 23, and 25 are preferably hingedly coupled to pole portion 15 at an upper portion of pole portion 15. An integral lighting system 26 is carried by at least one of rib members 19, 21, 23, or 25. Lighting system 26 provides high intensity light to umbrella apparatus 11 and the surrounding area. In the embodiment of FIG. 1, lighting system 26 preferably utilizes a cold cathode tube which will be described in greater detail herein.

Umbrella apparatus 11 may include a base member adapted to receive pole portion 15 and to support umbrella apparatus 11 in a generally upright position. Although not shown in the embodiment FIG. 1, other embodiments of the present invention depict a variety of conventional and novel base members, any of which may be utilized with the embodiment of FIG. 1. It should be understood that in all of the embodiments of the present invention discussed herein, umbrella apparatus 11 may be used with little or no base member whatsoever, provided there is a table or some other support structure, including the ground, which may be adapted to receive pole portion 15. For example, many patio tables are designed with central apertures to receive, support, and stabilize relatively large umbrellas. In some cases, the patio tables eliminate the need for a base member all together.

In accordance with the preferred embodiment of the present invention, light system 26 includes a plurality of light strands 27, 29, 31, and 33 attached to rib members 19, 21, 23, and 25. Each light strand 27, 29, 31, and 33 includes electrical wiring 39 which conductively connects a plurality of small cold cathode tube light bulbs together for providing the high intensity light under canopy 17 and in the area surrounding umbrella apparatus 11. A wiring ring 37 secures and locates electrical wiring 39 of light strands 27, 29, 31, and 33, so that electrical wiring 39 may be passed through the hollow interior of pole portion 15 to a power source, as will be described in detail below.

Umbrella apparatus 11 includes an optional opening and closing system 40 that aids in expanding umbrella portion 13 into the open condition and retracting umbrella portion 13 into the closed condition. Opening and closing system 40 includes a cable system 41, a gear and pulley system 43 housed in a crank case 44, and a manual crank 45. Crank case 44 is preferably located on pole portion 15 such that

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crank case 44 is accessible when umbrella portion 13 is in the fully retracted position against pole portion 15. Cable system 41 is coupled between rib members 19, 21, 23, and 25 and gear and pulley system 43, and is preferably disposed within the hollow interior of pole portion 15. Manual crank 45 is coupled to gear and pulley system 43 so as to allow manual opening and closing of umbrella portion 13.

Opening and closing system 40 may be automated by the inclusion of an electric screw driver motor 49, or other similar relatively small diameter motor assembly, and one or more operational switches 47. Motor 49 is preferably disposed within the hollow interior of pole portion 15 and is coupled to gear and pulley system 43. Operational switches 47 are preferably carried by crank case 44, and include one or more switches for controlling the operation of motor 49. With the inclusion of motor 49, a user may expand and retract umbrella portion 13 simply by pressing the appropriate operational switch 47. This feature is particularly advantageous when used with large umbrellas which may be relatively heavy and awkward to operate, or when the user lacks sufficient strength to expand or retract umbrella portion 13.

Umbrella apparatus 11 includes a power system 50 having a power source 55. In this embodiment, power source 55 is preferably disposed in the hollow interior of pole portion 15 at a lower extremity and comprises one or more rechargeable batteries 55a. A releasable end cap 57 having integral ground connectors is provided at the lowermost portion of pole portion 15 to complete the electrical circuit of power system 50 and to allow access to rechargeable batteries 55a, as rechargeable batteries 55a may have to be periodically replaced. Power system 50 provides electrical power to lighting system 26 and opening and closing system 40. An external power system charger 51 is electrically coupled to power system 50 to aid in repeatedly charging rechargeable batteries 55a. As is shown in FIG. 1, an external adapter 60 may be provided. External adapter 60 includes a relatively small plug 59 that is adapted to be conductively received by external power system charger 51, an extension cord 61, an electrical transformer 63, and terminals 65 that allow transformer 63 to be plugged into a conventional AC wall outlet. This allows power system charger 51 to receive power directly from a conventional AC wall outlet in order to recharge rechargeable batteries 55a.

In accordance with a preferred embodiment of the present invention, an alternative power system charger 62 may be provided. Alternate power system charger 62 includes at least one solar cell 35 carried by an upper cap portion 64. Solar cells 35 are conductively coupled to power system charger 51 via wires (not shown) that pass through the hollow interior of pole portion 15, thereby allowing solar cells 35 to provide an electrical charge to recharge rechargeable batteries 55a, provided sunlight falls upon solar cells 35. Because solar cells 35 provide continuous recharging throughout the daylight hours, the amount and frequency of charging power system 50 with external power system charger 60 may be minimized. It is important to note that locating alternate power system charger 62 atop umbrella portion 13 is unique and advantageous, particularly when alternate power system charger 62 includes solar cells 35 or other types of solar energy collectors. Such location limits the visibility of alternate power system charger 62 and ensures that solar energy collection is maximized.

The embodiment depicted in FIG. 1 is advantageous over the prior art in that it provides a number of useful functions. Umbrella apparatus 11 is lighted by lighting system 26 which does not require continuous access to a conventional



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AC wall outlet, while providing high intensity light. This allows umbrella apparatus 11 to be placed in a relatively remote lawn or garden locations that are away from, or substantially removed from, conventional AC power outlets. During daylight hours, solar cells 35 provide a continuous trickle charge to recharge rechargeable batteries 55a, thereby reducing the need for and frequency of use of external power system charger 60. However, when an electrical charge is needed, external power system charger 60 may be utilized to directly charge power system charger 51. Of course, a conventional extension cord may be used, thereby eliminating the need to move umbrella apparatus 11 from its remote location to a location near an AC power outlet.

Referring now to FIGS. 2A-2C in the drawings, another embodiment of the present invention is illustrated. In this embodiment, an umbrella apparatus 111 includes an umbrella portion 113, a pole portion 115, a stand portion 118, and a base portion 120 adapted to house a rechargeable power system 151. Umbrella apparatus 11 includes a lighting system 126 and may include a motorized opening and closing system 140. Umbrella portion 113 is preferably retractable and may be moved between a raised, or expanded open position, which is shown; and a lowered, or retracted, closed position in which umbrella portion is collapsed down about pole portion 115, as is conventional. A flexible canopy 117 is attached to and covers umbrella portion 115. Canopy 117 is supported by a plurality of rib members 119, 121, 123, and 125. Rib members 119, 121, 123, and 125 are preferably hingedly coupled to pole portion 115 at an upper portion of pole portion 115. An integral lighting system 126 is carried by at least one of rib members 119, 121, 123, or 125. Lighting system 126 provides high intensity light to umbrella apparatus 111 and the surrounding area. In the embodiment of FIGS. 2A-2C, lighting system 126 preferably utilizes a cold cathode tube which will be described in greater detail herein.

Lighting system 126 includes a plurality of light strands 127, 129, 131, and 133 attached to rib members 119, 121, 123, and 125. Each light strand 127, 129, 131, and 133 includes electrical wiring 139 which conductively couples a plurality of small cold cathode tube light bulbs together for providing the high intensity light under canopy 117 and in the area surrounding umbrella apparatus 111. A wiring ring 137 secures and locates electrical wiring 139 of light strands 127, 129, 131, and 133, so that electrical wiring 139 may be passed through the hollow interior of pole portion 115 to a power source, as will be described in detail below.

Umbrella apparatus 111 includes an optional opening and closing system 140 that aids in expanding umbrella portion 113 into the open condition and retracting umbrella portion 113 into the closed condition. Opening and closing system 140 includes a cable system 141, a gear and pulley system 143 housed in a crank case 144, and a manual crank 145. Crank case 144 is preferably located on pole portion 115 such that crank case 144 is accessible when umbrella portion 113 is in the fully retracted position against pole portion 115. Cable system 141 is coupled between rib members 119, 121, 123, and 125 and gear and pulley system 143, and is preferably disposed within the hollow interior of pole portion 115. Manual crank 145 is coupled to gear and pulley system 143 so as to allow manual opening and closing of umbrella portion 113.

Opening and closing system 140 may be automated by the inclusion of an electric screw driver motor 149, or other similar relatively small diameter motor assembly, and one or more operational switches 147. Motor 149 is preferably

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disposed within the hollow interior of pole portion 115 and is coupled to gear and pulley system 143. Operational switches 147 are preferably carried by crank case 144, and include one or more switches for controlling the operation of motor 149. With the inclusion of motor 149, a user may expand and retract umbrella portion 113 simply by pressing the appropriate operational switch 147. This feature is particularly advantageous when used with large umbrellas which may be relatively heavy and awkward to operate, or when the user lacks sufficient strength to expand or retract umbrella portion 113.

Umbrella apparatus 111 includes a power system 150 having a power source 155. In this embodiment, power source 155 is preferably adapted to be conductively coupled to base portion 120 and comprises a rechargeable battery pack 155a, preferably an 18-Volt rechargeable battery pack. Battery pack 155a is preferably the type of rechargeable battery that is utilized with most modern cordless power tools, such as drills, saws, and sanders. Battery pack 155a is adapted to be repeatedly recharged by plugging battery pack 155a into a conventional charger (not shown) that is plugged into a conventional AC power outlet. Power system 150 provides electrical power to lighting system 126 and opening and closing system 140.

In accordance with a preferred embodiment of the present invention, an alternate power system charger 162 may be provided. Alternate power system charger 162 includes at least one solar cell 135 carried by an upper cap portion 164. Solar cells 135 are conductively coupled to power system 150 via wires (not shown) that pass through the hollow interior of pole portion 115, thereby allowing solar cells 135 to provide an electrical charge to recharge rechargeable battery pack 155a, provided sunlight falls upon solar cells 135. Because solar cells 135 provide continuous recharging throughout the daylight hours, the frequency with which battery pack 155a must be replaced or recharged may be minimized. It is important to note that locating alternate power system charger 162 atop umbrella portion 113 is unique and advantageous, particularly when alternate power system charger 162 includes solar cells 135 or other types of solar energy collectors. Such location limits the visibility of alternate power system charger 162 and ensures that solar energy collection is maximized.

Stand portion 118 includes an upright shaft portion 170 having a central aperture 172 that is adapted to receive the pole portion 115 of umbrella apparatus 111. A plurality of screw clamps 174 and 176 are provided to secure pole portion 115 within shaft portion 170. A bottom portion 146 is provided to stabilize umbrella apparatus 111 while umbrella apparatus 111 is installed within stand portion 118.

Base portion 120 includes a removable cylindrical sleeve 156, a removable cover 160, and a receiver 168. Sleeve 156 is configured to slip over the exterior of shaft portion 170, and includes a longitudinal slot 158 that allows access to screw clamps 174 and 176 when sleeve 156 is placed over shaft portion 170. Slot 158 also allows access to a connector 166 disposed in the lower portion of pole portion 115 when sleeve 156 is placed over shaft portion 170. Connector 166 is conductively coupled to the wires from alternate power system charger 162 and solar cells 135. Cover 160 is preferably concave in shape, thereby defining an interior space which may be used to house the electronics (not shown) of power system 150. Cover 160 may include one or more seams 163 that allow access to the interior space defined by cover 160. Receiver 168 releasably receives battery pack 155a. A wire 152 and plug 154 conductively couple battery pack 155a to connector 166, thereby provid-

ing an electrical circuit between rechargeable battery pack 155a and light strands 119, 121, 123, and 125 of lighting system 126.

The embodiment depicted in FIGS. 2A-2C is advantageous over the prior art in that it provides a number of useful functions. Umbrella apparatus 111 is lighted by lighting system 126 which does not require continuous access to a conventional AC wall outlet, while providing high intensity light. This allows umbrella apparatus 111 to be placed in a relatively remote lawn or garden locations that are away from, or substantially removed from, conventional AC power outlets. During daylight hours, solar cells 135 provide a continuous trickle charge to recharge rechargeable battery pack 155a, thereby reducing the frequency with which battery pack 155a must be replaced or recharged. Additionally, this embodiment is advantageous over the prior art in that conventional rechargeable battery packs, which are commonly used with cordless power tools, may be utilized. If battery pack 155a is insufficiently charged illuminate light strands 119, 121, 123, and 125 of light system 126, the user may simply replace battery pack 155a with another fully charged battery pack 155a. In this manner, lighting system 126 of umbrella apparatus 111 may be energized conveniently, even though umbrella apparatus 111 may be located extremely remotely from an AC power outlet, such as in a garden patio, or on a boat dock. In this embodiment, there is no need to use extension cords to charge an alternate power system charger.

Referring now to FIGS. 3A-3C in the drawings, another embodiment of the present invention is illustrated. In this embodiment, an umbrella apparatus 211 includes an umbrella portion 213, a pole portion 215, a stand portion 218, and a base portion 220 adapted to house a rechargeable power system 251. Umbrella apparatus 211 includes a lighting system 226 and may include a motorized opening and closing system 240. Umbrella portion 213 is preferably retractable and may be moved between a raised, or expanded open position, which is shown; and a lowered, or retracted, closed position in which umbrella portion is collapsed down about pole portion 215, as is conventional. A flexible canopy 217 is attached to and covers umbrella portion 215. Canopy 217 is supported by a plurality of rib members 219, 221, 223, and 225. Rib members 219, 221, 223, and 225 are preferably hingedly coupled to pole portion 215 at an upper portion of pole portion 215. An integral lighting system 226 is carried by at least one of rib members 219, 221, 223, or 225. Lighting system 226 provides high intensity light to umbrella apparatus 211 and the surrounding area. In the embodiment of FIGS. 3A-3C lighting system 226 preferably utilizes a cold cathode tube which will be described in greater detail herein.

Lighting system 226 includes a plurality of light strands 227, 229, 231, and 233 attached to rib members 219, 221, 223, and 225. Each light strand 227, 229, 231, and 233 includes electrical wiring 239 which conductively couples a plurality of small cold cathode tube light bulbs together for providing the high intensity light under canopy 217 and in the area surrounding umbrella apparatus 211. A wiring ring 237 secures and locates electrical wiring 239 of light strands 227, 229, 231, and 233, so that electrical wiring 239 may be passed through the hollow interior of pole portion 215 to a power source, as will be described in detail below.

Umbrella apparatus 211 includes an optional opening and closing system 240 that aids in expanding umbrella portion 213 into the open condition and retracting umbrella portion 213 into the closed condition. Opening and closing system 240 includes a cable system 241, a gear and pulley system

243 housed in a crank case 244, and a manual crank 245. Crank case 244 is preferably located on pole portion 215 such that crank case 244 is accessible when umbrella portion 213 is in the fully retracted position against pole portion 215. Cable system 241 is coupled between rib members 219, 221, 223, and 225 and gear and pulley system 243, and is preferably disposed within the hollow interior of pole portion 215. Manual crank 245 is coupled to gear and pulley system 243 so as to allow manual opening and closing of umbrella portion 213.

Opening and closing system 240 may be automated by the inclusion of an electric screw driver motor 249, or other similar relatively small diameter motor assembly, and one or more operational switches 247. Motor 249 is preferably disposed within the hollow interior of pole portion 215 and is coupled to gear and pulley system 243. Operational switches 247 are preferably carried by crank case 244, and include one or more switches for controlling the operation of motor 249. With the inclusion of motor 249, a user may expand and retract umbrella portion 213 simply by pressing the appropriate operational switch 247. This feature is particularly advantageous when used with large umbrellas which may be relatively heavy and awkward to operate, or when the user lacks sufficient strength to expand or retract umbrella portion 213.

Umbrella apparatus 211 includes a power system 250 having a rechargeable power source 255. In this embodiment, power source 255 is preferably adapted to be conductively coupled to and housed within base portion 220 and comprises a bundle of rechargeable batteries 255a. Power system 250 provides electrical power to lighting system 226 and opening and closing system 240. An external power system charger and transformer 251 is electrically coupled to power system 250 to aid in repeatedly charging rechargeable batteries 255a. An extension cord 261 having terminals 265 allow external power system charger and transformer 251 to be plugged into a conventional AC wall outlet. This allows external power system charger and transformer 251 to receive power directly from a conventional AC wall outlet in order to recharge rechargeable batteries 255a.

In accordance with a preferred embodiment of the present invention, an alternative power system charger 232 may be provided. Alternate power system charger 262 includes at least one solar cell 235 carried by an upper cap portion 264. Solar cells 235 are conductively coupled to power system 250 via wires (not shown) that pass through the hollow interior of pole portion 215, thereby allowing solar cells 235 to provide an electrical charge to recharge rechargeable batteries 255a, provided sunlight falls upon solar cells 235. Because solar cells 235 provide continuous recharging throughout the daylight hours, the frequency with which batteries 255a must be replaced or recharged may be minimized. It is important to note that locating alternate power system charger 262 atop umbrella portion 213 is unique and advantageous, particularly when alternate power system charger 262 includes solar cells 235 or other types of solar energy collectors. Such location limits the visibility of alternate power system charger 262 and ensures that solar energy collection is maximized.

Stand portion 218 includes an upright shaft portion 270 having a central aperture 272 that is adapted to receive pole portion 215 of umbrella apparatus 211. A plurality of screw clamps 274 and 276 are provided to secure pole portion 215 within shaft portion 270. A bottom portion 246 is provided to stabilize umbrella apparatus 211 while umbrella apparatus 211 is installed within stand portion 218.

Base portion 220 includes a removable cylindrical sleeve 256, a removable cover 260, and recessed portions 280 and 282. Sleeve 256 is configured to slip over the exterior of shaft portion 270, and includes a longitudinal slot 258 that allows access to screw clamps 274 and 276 when sleeve 256 is placed over shaft portion 270. Slot 258 also allows access to a connector 266 disposed in the lower portion of pole portion 215 when sleeve 256 is placed over shaft portion 270. Connector 266 is conductively coupled to the wires from alternate power system charger 262 and solar cells 235. Cover 260 is preferably concave in shape, thereby defining an interior space which may be used to house the electronics (not shown) of power system 250. Cover 260 may include one or more seams 263 that allow access to the interior space defined by cover 260. Recessed portion 280 releasably receives batteries 255a, and recessed portion 282 releasably receives external power system charger 251. A wire 252 and plug 254 conductively couple batteries 255a to connector 266, thereby providing an electrical circuit between rechargeable batteries 255a and light strands 219, 221, 223, and 225 of lighting system 226.

The embodiment depicted in FIGS. 3A–3C is advantageous over the prior art in that it provides a number of useful functions. Umbrella apparatus 211 is lighted by lighting system 226 which does not require continuous access to a conventional AC wall outlet, while providing high intensity light. This allows umbrella apparatus 211 to be placed in a relatively remote lawn or garden locations that are away from, or substantially removed from, conventional AC power outlets. During daylight hours, solar cells 235 provide a continuous trickle charge to recharge rechargeable batteries 255a, thereby reducing the frequency with which batteries 255a must be replaced or recharged. However, when an electrical charge is needed, external power system charger 251 may be utilized to directly charge batteries 255a. Of course, a conventional extension cord may be used, thereby eliminating the need to move umbrella apparatus 211 from its remote location to a location near an AC power outlet.

Referring now to FIG. 4A in the drawings, the preferred embodiment of lighting systems 26, 126, and 226 of the present invention is illustrated. In this embodiment, a plurality of lighting elements 307, preferably cold cathode tube bulbs, are recessed into rib member 301. Rib member 301 is indicative of rib members 19, 21, 23, 25, 119, 121, 123, 125, 219, 221, 223, and 225. As is shown, a cavity 303 is formed within rib 301. Cavity 303 is adapted to receive and hold light bulb 307. A translucent material 305 extends along the entire length of the cavity 303 to protect bulbs 307 from damage and undesirable exposure to weather and other conditions. Translucent material 305 may have a smooth surface or be textured to accentuate or enhance the light from bulbs 307. Although only a single cold cathode tube bulb 307 is illustrated, it should be understood that there may be many bulbs 307 spaced along the length of rib member 301 to illuminate the area under umbrella apparatus 11, 111, or 211. Rib member 301 includes a wiring channel 309 configured to receive a wire 311 that conductively connects all of the bulbs 307 installed in rib member 301, thereby forming an electrical circuit between bulbs 307 and the rechargeable power source, such as power sources 50, 150, and 250. In this manner, recessed lighting, which is carried entirely within rib member 301 and is not otherwise exposed to the elements, is achieved.

Referring now to FIG. 4B in the drawings, an alternate embodiment of lighting systems 26, 126, and 226 of the present invention is illustrated. This embodiment is similar

to the embodiment of FIG. 4A, with the exception that an integral cooling system 410 has been added. In this embodiment, a plurality of lighting elements 307, preferably cold cathode tube bulbs, are recessed into a rib member 301. Rib member 301 is indicative of rib members 19, 21, 23, 25, 119, 121, 123, 125, 219, 221, 223, and 225. Cooling system 410 comprises a misting means that provides a light mist to cool the area under umbrella apparatus 11, 111, or 211. A cavity 403 is formed within rib member 401. Cavity 403 is adapted to receive and hold light bulb 407. A translucent material 405 extends along the entire length of the cavity 403 to protect bulbs 407 from damage and undesirable exposure to weather and other conditions. Translucent material 405 may have a smooth surface or be textured to accentuate or enhance the light from bulbs 407. Although only a single cold cathode tube bulb 407 is illustrated, it should be understood that there may be many bulbs 407 spaced along the length of rib member 401 to illuminate the area under umbrella apparatus 11, 111, or 211. Rib member 401 includes a wiring channel 409 configured to receive a wire 411 that conductively connects all of the bulbs 407 installed in rib member 401, thereby forming an electrical circuit between bulbs 407 and the rechargeable power source, such as power sources 50, 150, and 250. In this manner, recessed lighting, which is carried entirely within rib member 401 and is not otherwise exposed to the elements, is

A fluid supply channel 421 is provided in order to receive a fluid tight hose which supplies water to a plurality of misting nozzles 425 which generate mist 427 and 480. A fluid discharge channel 423 is provided to carry a fluid tight hose which carries water from the hose in fluid supply channel 421 to misting nozzles 425. In this embodiment, umbrella apparatus should include a small reservoir (not shown) of water or other water source, such as an inlet hose, and an electric pump to pressurize and pump the water through cooling system 410. In this manner, umbrella apparatus 11, 111, or 211 provides both light and a cooling mist to those in close proximity.

Referring now to FIG. 4C in the drawings, another embodiment of lighting systems 26, 126, and 226 of the present invention is illustrated. This embodiment is similar to the embodiment of FIG. 4A, with the exception that a different integral cooling system 510 has been added. In this embodiment, a plurality of lighting elements 507, preferably cold cathode tube bulbs, are recessed into a rib member 501. Rib member 501 is indicative of rib members 19, 21, 23, 25, 119, 121, 123, 125, 219, 221, 223, and 225. Cooling system 510 comprises a fanning means that provides a cool breeze under umbrella apparatus 11, 111, or 211. A cavity 503 is formed within rib member 501. Cavity 503 is adapted to receive and hold light bulb 507. A translucent material 505 extends along the entire length of the cavity 503 to protect bulbs 507 from damage and undesirable exposure to weather and other conditions. Translucent material 505 may have a smooth surface or be textured to accentuate or enhance the light from bulbs 507. Although only a single cold cathode tube bulb 507 is illustrated, it should be understood that there may be many bulbs 507 spaced along the length of rib member 501 to illuminate the area under umbrella apparatus 11, 111, or 211. Rib member 501 includes a wiring channel 509 configured to receive a wire 511 that conductively connects all of the bulbs 507 installed in rib member 501, thereby forming an electrical circuit between bulbs 507 and the rechargeable power source, such as power sources 50, 150, and 250. In this manner, recessed lighting, which is carried entirely within rib member 501 and is not otherwise exposed to the elements, is achieved.

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A wiring conduit 520 is provided which routes electrical wiring from wire 511 to an electric motor 524 carried in a recessed cavity 522. Fanning means 528 and 580, such as fan blades, are carried by rotating shafts 530 which are connected to motors 524. When energized, motors 524 rotate fan blades 528 and 580, thereby providing a cooling breeze under umbrella apparatus 11, 111, and 211. A plurality of fan blade sets 528 and 580 may be located at predetermined locations along the length of rib member 501.

Referring now to FIG. 5A in the drawings, a block diagram representation of the preferred embodiment of opening and closing systems 40, 140, and 240 is illustrated. As is shown, a pulley system 600 is coupled through gears 602 to an electric motor 604. A switch 606 is electrically connected between a power supply 608 and electric motor 604. Power supply 608 is indicative of rechargeable power systems 50, 150, and 250. External power system charger 610 and solar charger 612 are coupled to power supply 608 to recharge the rechargeable battery elements. External power system charger 610 is indicative of external power system chargers 51 and 251. Solar charger 612 is indicative of alternate power system chargers 62, 162, and 262. Mechanical actuation of switch 606 allows current to flow from power supply 608 to electric motor 604. Motor 604 works through gears 602 to operate pulley 600, thereby opening and closing canopy 17, 117, or 217 of umbrella apparatus 11, 111, or 211, respectively.

Referring now to FIG. 5B in the drawings, another embodiment of the opening and closing systems 40, 140, and 240 of the present invention is illustrated. In this embodiment, a wireless transmitter 708 is utilized to transmit encoded signals and remotely communicate with a wireless receiver 706 that is carried by umbrella apparatus 11, 111, or 211, preferably near housings 44, 144, and 244. A decoder 704 is provided to decode the encoded signals. As is conventional with such receivers and transmitters, transmitter 708 and receiver 706 may be adapted to be coded on a particular frequency or coding scheme which enable a dedicated transmitter 708 to actuate a particular receiver 706. A decoder 704 coupled to an electrical switch 702 serves to allow for such identification. Switch 702 controls the application of electrical energy from a power supply 710 to an electric motor 700. Power supply 710 is indicative of rechargeable power systems 50, 150, and 250. Motor 700 is indicative of motors 49, 149, and 249. In this manner, a motorized retraction system may be actuated remotely utilizing wireless transmitter 708.

Referring now to FIGS. 6-9 in the drawings, the preferred embodiments of the umbrella apparatus of the present invention are illustrated. In these embodiments, the rechargeable power source and solar recharging system are mounted atop the pole portion of the umbrella apparatus above the canopy. One concept which runs throughout the embodiments depicted in FIGS. 6-9 is the utilization of a "power unit." This concept involves the placement of a unitary structure at a defined location relative to the umbrella. For example, in the embodiments of FIGS. 6-9, the power unit is shown at a top location directly above the umbrella apparatus, and secured to the pole portion with a threaded coupling. FIG. 6 depicts a top-mounted power unit and a cold cathode tube lighting system. FIG. 7 depicts a top-mounted power unit with a fanning means cooling system. FIG. 8 depicts a top-mounted power unit with mist producing cooling system. FIG. 9 depicts a top-mounted power unit with an automated opening and closing system.

Although FIGS. 6-9 depict power units with a single electrical system, it should be understood that in alternative

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embodiments, one could mix and match these electrical subassemblies such that a single power unit provides electrical power to two or more subassemblies. For example, an umbrella apparatus may include a lighting system and either one or both of the cooling systems described above. Alternatively, an umbrella apparatus may include a lighting system, a cooling system, and an automated opening and closing system as described herein. In this manner, the umbrella apparatus of the present invention is modular such that the different subsystems can be easily mixed and matched.

This modularity allows one to manufacture and sell aftermarket kits which can be installed and interchanged by the umbrella owners. Such kits may include a power unit and one or more of the subsystems, such as a lighting system and/or a cooling system and/or an automated opening and closing system. Because the power unit is relatively self-contained, little interaction is required to attach the power unit to an umbrella apparatus. Alternatively, this modularity in design facilitates the mass manufacture of umbrellas, allowing the electrical system to be manufactured by one factory, and the umbrella systems, which do not include electrical systems, to be manufactured by a different factory. The parts can then be brought together in an assembly area and assembled together.

Referring now specifically to FIG. 6, an umbrella apparatus 701 is illustrated. As is shown, a power unit 725 is provided for connection to the uppermost portion of umbrella apparatus 701. In this embodiment, a cold cathode tube light subassembly 721 is provided for connection at a different location to umbrella apparatus 701. Power unit 725 includes a solar collector 727 at its uppermost portion. Solar collector 727 is preferably carried by a top portion 703 of power unit 725. A bottom portion 705 of power unit 725 defines an interior battery compartment 707. Additionally, power unit 725 carries a coupling mechanism 729 to allow coupling between power unit 725 and a pole portion 719 of umbrella apparatus 701, pole portion 719 being adapted at an upper end 711, preferably with threads 713, to releasably receive power unit 725. A top cap 715 hingedly connects pole portion 719 to a canopy 717. Cold cathode tube light subassembly 721 is coupled at a desired location underneath canopy 717 to provide high intensity light in the area surrounding umbrella apparatus 701. Cold cathode tube light subassembly 721 is conductively coupled to power unit 725 by wiring 709 that passes through the hollow interior of pole portion 719. Such light allows users to read, play games, or perform other leisure activities that require a relatively high intensity light. The electrical components of umbrella apparatus 701 are entirely independent of any household electrical system. The power source, such as power sources 50, 150, and 250, carried by power unit 725 is utilized to energize cold cathode tube light subassembly 721. During daylight hours, solar energy is collected by solar panel 727 and is converted and utilized to recharge the rechargeable power source which is maintained within battery compartment 707.

Cold cathode tube light subassembly 721 is described below in more detail below. As will be appreciated by those skilled in the art, other low power lighting systems may be used instead of cold cathode tube light sub assembly 721. For example, an LED or fluorescent lighting subassembly may be utilized instead. LED and fluorescent systems designed for use with solar and low voltage lighting are known in the art. Such alternative lighting sources may be easily used with the present system in manners which are recognized by those skilled in the art. Implementation of

LED, fluorescent, or other alternate light sources instead of cold cathode tube light subassembly 721 is a straightforward and need not be further described in detail.

Referring now specifically to FIG. 7 in the drawings, an umbrella apparatus 801 is illustrated. As is shown, a power unit 825 is provided for connection to the uppermost portion of umbrella apparatus 801. In this embodiment, a cooling system 821 comprising a fanning means 831 is provided for connection at a different location to umbrella apparatus 801. Power unit 825 includes a solar collector 827 at its uppermost portion. Solar collector 827 is preferably carried by a top portion 803 of power unit 825. A bottom portion 805 of power unit 825 defines an interior battery compartment 807. Additionally, power unit 825 carries a coupling mechanism 829 to allow coupling between power unit 825 and a pole portion 819 of umbrella apparatus 801, pole portion 819 being adapted at an upper end 811, preferably with threads 813, to releasably receive power unit 825. A top cap 815 hingedly connects pole portion 819 to a canopy 817. Cooling system 821 is coupled at a desired location underneath canopy 817 to provide a cooling breeze in the area surrounding umbrella apparatus 801. Cooling system 821 is conductively coupled to power unit 825 by wiring 809 that passes through the hollow interior of pole portion 819. The electrical components of umbrella apparatus 801 are entirely independent of any household electrical system. The power source, such as power sources 50, 150, and 250, carried by power unit 825 is utilized to energize cooling system 821. During daylight hours, solar energy is collected by solar panel 827 and is converted and utilized to recharge the rechargeable power source which is maintained within battery compartment 807.

Referring now specifically to FIG. 8 in the drawings, an umbrella apparatus 901 is illustrated. As is shown, a power unit 955 is provided for connection to the uppermost portion of umbrella apparatus 901. In this embodiment, a cooling system 921 comprising a misting system 931 is provided for connection at a different location to umbrella apparatus 901. Power unit 955 includes a solar collector 957 at its uppermost portion. Solar collector 957 is preferably carried by a top portion 903 of power unit 955 bottom portion 905 of power unit 955 defines an interior battery compartment 907. Additionally, power unit 955 carries a coupling mechanism 959 to allow coupling between power unit 955 and a pole portion 919 of umbrella apparatus 901, pole portion 919 being adapted at an upper end 911, preferably with threads 913, to releasably receive power unit 955. A top cap 915 hingedly connects pole portion 919 to a canopy 917. The electrical components of umbrella apparatus 901 are entirely independent of any household electrical system. The power source, such as power sources 50, 150, and 250, carried by power unit 955 is utilized to energize cooling system 921. During daylight hours, solar energy is collected by solar panel 957 and is converted and utilized to recharge the rechargeable power source which is maintained within battery compartment 907.

Cooling system 921 is coupled at a desired location underneath canopy 917 to provide a cooling mist in the area surrounding umbrella apparatus 901. Cooling system 921 is conductively coupled to power unit 955 by wiring 909 that passes through the hollow interior of pole portion 919. Cooling system 921 is a misting system comprising a reservoir 925, or other water source, a pump 927, water feed lines 929, and mist nozzles 923. Pump 927 pressurizes and pumps the water from reservoir 925 through water feed lines 929 and out of mist nozzles 923, which are located at selected spaced intervals under canopy 917, at a selected

flow rate. Reservoir 925 may be a conventional ice cooler, such that the mist is chilled water.

Referring now specifically to FIG. 9 in the drawings, an umbrella apparatus 1001 is illustrated. As is shown, a power unit 1055 is utilized to provide electrical power to an automated opening and closing system 1050. Power unit 1055 includes a solar collector 1027 at its uppermost portion. Solar collector 1027 is preferably carried by a top portion 1003 of power unit 1055. A bottom portion 1005 of power unit 1055 defines an interior battery compartment 1007. Additionally, power unit 1055 carries a coupling mechanism 1029 to allow coupling between power unit 1055 and a pole portion 1019 of umbrella apparatus 1001, pole portion 1019 being adapted at an upper end 1011, preferably with threads 1013, to releasably receive power unit 1055. A top cap 1015 hingedly connects pole portion 1019 to a canopy 1017. The electrical components of umbrella apparatus 1001 are entirely independent of any household electrical system. Automated opening and closing system 1050 is conductively coupled to power unit 1055 by wiring 1009 that passes through the hollow interior of pole portion 1019. The power source, such as power sources 50, 150, and 250, carried by power unit 1055 is utilized to energize automated opening and closing system 1050. During daylight hours, solar energy is collected by solar panel 1027 and is converted and utilized to recharge the rechargeable power source which is maintained within battery compartment 1007.

Automated opening and closing system 1050 is carried at the uppermost portion of pole portion 1019. Opening and closing system 1050 includes a motor 1021, a transmission 1023, a line winding shaft 1025, a pulley system 1031, and a cable system 1033. These components cooperate to open and close the umbrella in response to the receipt of a command signal. The command signal may be supplied by the actuation of a switch (see FIGS. 1-3) carried on pole portion 1019, or it may be a wireless signal received from a paired transmitter receiver system (see FIG. 5B).

Referring now to FIG. 10 in the drawings, a schematic of the cold cathode tube lighting system of the present invention is illustrated. The invention is to utilize in combination a cold cathode lamp, a power inverter which supplies alternating current to the cold cathode lamp, a rechargeable DC battery pack, and a solar collector. This is depicted in simplified form in FIG. 10. This may be utilized in any outdoor application in which there is no easy or convenient access to household power. The system is entirely self contained and does not require any household power for operation, or charging. As is shown, the cold cathode tube lighting system 3000 includes a cold cathode lamp 3001 that is supplied with AC power from a power inverter 3007. A DC battery pack 3003 includes rechargeable batteries that supply DC current to power inverter 3007. A solar collector 3005 is provided to recharge the batteries contained within DC power pack 3003.

A cold cathode tube is a lamp that produces light by the passage of an electric current through a vapor or gas maintained within a tube. A cold cathode tube does not require any heating above ambient temperature to produce light. The tube is phosphor coated on its inner surface, and thus may emit various colored light. In most cases, cold cathode tube lamps are low-pressure mercury vapor lamps. Such lamps use a 253.7 nanometer ultraviolet emission from mercury vapor excited by an electrical discharge through the lamp to charge the phosphors maintained on the wall of the lamp.

The optimum operating temperature for cold cathode tube is approximately 40 degrees Celsius, although Applicant

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believes that these lamps can be produced in a manner to reliably provide outdoor lighting in temperatures as cold as 15 degrees Fahrenheit. While the cold cathode tube does not require heating, the output of the lamp does vary based upon the ambient temperature. At room temperature, the initial output of a lamp is only about seventy percent of its steady state value at 40 degrees Celsius. In contrast, its output is only 25 percent when the lamp is started at zero degrees Celsius. Cold starts do require additional voltage from the power source to ensure reliable operation. However, the number of lamp "starts" has no adverse effect on the lamp. This is not true for fluorescent lamps, which degrade over time due to the number of "starts." Cold cathode tubes may be utilized to supply a white light output.

In the preferred embodiment, a cold cathode tube manufactured by Nanjing Lampus Electronics Company, Ltd. is utilized. Specifically, a lamp type CFL-20 is utilized. This has an inner diameter of 1.5 millimeters. The tube length is variable, and may be anywhere in the range of 50 millimeters to 30 millimeters in overall length. The tube is adapted to operate on four milliamps of tube current. The tube voltage is in the range of 200 to 750 Volts. The average brightness of this particular tube is 40,000 cd/m<sup>2</sup>.

Another advantage of cold cathode tubes is that the tubes can be very thin in diameter. For example, in the preferred implementation, the cold cathode tube may be one or two millimeters in diameter. A cold cathode tube can be bent into any shape and can be formed in very long lengths, such as several feet long. Thus, cold cathode tubes provide greater light output per foot versus conventional lighting.

Another significant advantage of cold cathode tubes is that they have relatively long lamp life. It is not unusual to have lamp lives which are thirty to forty thousand hours of use. In other words, these cold cathode tubes have, for all practical purposes, an infinite life span.

They are low power devices. They do not generate a lot of heat. They provide high lumen output. For these reasons, fewer batteries are needed to drive the cold cathode ray tube, and smaller solar cell panels may be utilized to recharge the batteries. In other words, relatively small form factors can be achieved because the solar cells, the batteries, and the bulbs can be relatively small in size.

The present invention can be implemented on a small, medium, or large scale so the solar cell panels and batteries may be moved up in size to either provide greater light output or to provide for a longer useful life.

Additionally, the present invention may be considered to satisfy three separate and distinct outdoor lighting applications, all of which may be incorporated into the umbrella apparatus of the present invention.

The first application is that of a "special purpose light," or "ask light," such as for security applications. These special purpose lights would provide very light output, for a relatively short duration. One example would be the utilization of the cold cathode ray tube to provide extremely high light output for a very small area for a very short time, all in response to detection of motion in a particular area. For example, a system can be configured to detect motion in a doorway, motion in a yard, motion in a driveway, or the like. The brightness can be provided which can be far in excess of 40,000 cd/m<sup>2</sup>. For example, 100,000 to 200,000 cd/m<sup>2</sup> may be provided for a very small area for a very short duration. For example, the duration may be a few minutes to ten minutes.

The second application requires a medium amount of light output, but requires longer periods of operation or wider

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areas of coverage. For example, the light assembly provided with the umbrella provides a relatively high light output, such as in the range of 20,000 to 100,000 cd/m<sup>2</sup>, in order to allow one to read, play games, operate a computer, or do needlework under the umbrella. Preferably, the battery pack and associated solar panel is sufficient to allow the system to operate continuously for a time interval in the range of 8-12 hours. Additionally, and preferably, the solar panel should be of the size and output which is sufficient to fully recharge the battery pack during the daylight hours.

A third application requires a lower level of light intensity. A good example would be lawn, patio, walkway, or landscape lighting. One does not ordinarily expect to be able to read or do intricate work under this type of lighting. In contrast, all that is expected is that a reasonable amount of light be provided to allow one to walk safely through an area. This type of task may require brightness in the range of 6,000 cd/m<sup>2</sup> to 60,000 cd/m<sup>2</sup>.

Referring now to FIG. 11 in the drawings, a block diagram representation of the application of the present invention to a lawn lighting scenario is illustrated. In this scenario, a plurality of solar panels 4001, 4003, 4005, and 4007 are connected together in series. Preferably, solar panels 4001, 4003, 4005, and 4007 are manufactured by Siemens and comprise mono-crystal solar panels, each providing 1.5 Volts. The total current for the array of solar panels is about 80 milliamps. The current from solar panels 4001, 4003, 4005, and 4007 is passed through a diode 4009 and then to a battery pack 4011. Battery pack 4011 includes a plurality of batteries 4013, 4015, and 4017, for example three AA batteries. In alternative embodiments, as few as two batteries may be used. As is shown, each battery is a 1.2 Volt Nickel Cadmium battery. They collectively provide 700 milliamp hours of power.

The output of DC battery pack 4011 is provided as an input to an inverter 4019. Inverter 4019 receives 4.8 Volts DC in and produces as an output of 800 Volts rms AC at 40 Hertz. The total current of the output is 4-6 milliamps.

This is provided to the cathode of a cold cathode ray tube lamp 4021. The current passes through the vapor maintained within cold cathode ray tube lamp 4021 and causes electrons to be stripped from the gas. These electrons collide with the phosphorus coating on the interior surface of cold cathode ray tube lamp 4021, thereby emitting light.

Although the invention has been described with reference to a particular embodiment, this description is not meant to be construed in a limiting sense. Various modifications of the disclosed embodiments as well as alternative embodiments of the invention will become apparent to persons skilled in the art upon reference to the description of the invention. It is therefore contemplated that the appended claims will cover any such modifications or embodiments that fall within the scope of the invention.

What is claimed is:

1. An umbrella apparatus comprising:

- a base support portion;
- a pole portion coupled to the base support portion;
- a canopy portion hingedly coupled to the pole portion;
- a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
- a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable elec-

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anical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and  
 an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet.  
 2. An umbrella apparatus comprising:  
 a base support portion;  
 a pole portion coupled to the base support portion;  
 a canopy portion hingedly coupled to the pole portion;  
 a rechargeable electrical power system for providing electrical power to the umbrella apparatus;  
 a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and  
 a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system.  
 3. The umbrella apparatus according to claim 2, wherein the lighting system comprises:  
 a plurality of rib members coupled to the canopy portion; and  
 a plurality of cold cathode tube elements carried by the rib members, each cold cathode tube element being conductively coupled to and powered by the rechargeable electrical power source.  
 4. The umbrella apparatus according to claim 2, wherein the lighting system comprises:  
 a plurality of rib members coupled to the canopy portion; and  
 a plurality of light emitting diode elements carried by the rib members, each light emitting diode element being conductively coupled to and powered by the rechargeable electrical power source.  
 5. The umbrella apparatus according to claim 2, wherein the lighting system comprises:  
 a plurality of rib members coupled to the canopy portion; and  
 a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power source.  
 6. An umbrella apparatus comprising:  
 a base support portion;  
 a pole portion coupled to the base support portion;  
 a canopy portion hingedly coupled to the pole portion;  
 a rechargeable electrical power system for providing electrical power to the umbrella apparatus;  
 a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and  
 an electromechanical opening and closing system for opening and closing the canopy portion, the electro-

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mechanical opening and closing system being conductively coupled to and powered by the rechargeable electrical power system.  
 7. The umbrella apparatus according to claim 6, wherein the electromechanical opening and closing system comprises:  
 an electric motor carried by the pole portion;  
 a control system for controlling the electric motor;  
 a gear system coupled to the electric motor; and  
 a cable and pulley system coupled to the gear system and the canopy portion;  
 wherein the opening and closing of the canopy portion is achieved by the electric motor in response to selective operation of the control system.  
 8. The umbrella apparatus according to claim 7, wherein the control system comprises:  
 a receiver conductively coupled to the electric motor;  
 a remote transmitter for transmitting an encoded signal to the receiver; and  
 a decoder conductively coupled to the receiver for decoding the encoded signal from the transmitter.  
 9. An umbrella apparatus comprising:  
 a base support portion;  
 a pole portion coupled to the base support portion;  
 a canopy portion hingedly coupled to the pole portion;  
 a rechargeable electrical power system for providing electrical power to the umbrella apparatus;  
 a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and  
 a cooling system carried by the canopy portion, the cooling system being conductively coupled to and powered by the rechargeable electrical power system, the cooling system comprising:  
 a fluid reservoir operably associated with the umbrella apparatus;  
 at least one mist nozzle coupled to the canopy portion, each mist nozzle being in fluid communication with the fluid;  
 a conduit creating fluid communication between the fluid reservoir and each mist nozzle; and  
 a pump for pumping the fluid from the reservoir through each mist nozzle.  
 10. An umbrella apparatus comprising:  
 a base support portion;  
 a pole portion coupled to the base support portion;  
 a canopy portion hingedly coupled to the pole portion;  
 a rechargeable electrical power system for providing electrical power to the umbrella apparatus;  
 a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and  
 a combination of two or more of the following modular systems:

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a lighting system carried by the canopy portion;  
an electromechanical opening and closing system for  
opening and closing the canopy portion; or  
a cooling system;  
wherein each modular system is configured to be  
interchanged with each other, each modular system  
being conductively coupled to and powered by the  
rechargeable electrical power system.

11. The umbrella apparatus according to claim 10,  
wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion;  
and

a plurality of cold cathode tube elements carried by the rib  
members, each cold cathode tube element being con-  
ductively coupled to and powered by the rechargeable  
electrical power source.

12. The umbrella apparatus according to claim 10,  
wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion;  
and

a plurality of light emitting diode elements carried by the  
rib members, each light emitting diode element being  
conductively coupled to and powered by the recharge-  
able electrical power source.

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13. The umbrella apparatus according to claim 10,  
wherein the cooling system comprises:

a fluid reservoir operably associated with the umbrella  
apparatus;

at least one mist nozzle coupled to the canopy portion,  
each mist nozzle being in fluid communication with the  
fluid;

a conduit creating fluid communication between the fluid  
reservoir and each mist nozzle; and

a pump for pumping the fluid from the reservoir through  
each mist nozzle.

14. The umbrella apparatus according to claim 10,  
wherein the electromechanical opening and closing system  
comprises:

an electric motor carried by the pole portion;

a control system for controlling the electric motor;

a gear system coupled to the electric motor; and

a cable and pulley system coupled to the gear system and  
the canopy portion;

wherein the opening and closing of the canopy portion is  
achieved by the electric motor in response to selective  
operation of the control system.

\* \* \* \* \*



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Substitute for Form 1449/A/PTO		<b>Complete if Known</b>		
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (use as many sheets as necessary)		<b>Application Number</b>	<b>6,612,713</b>	
		<b>Filing Date</b>	<b>September 2, 2003</b>	
		<b>First Named Inventor</b>	<b>Gregory G. Kuelbs</b>	
		Group Art Unit		
		Examiner Name		
Sheet		of	Attorney Docket Number	<b>45639-316477</b>

<b>U.S. PATENT DOCUMENTS</b>						
Examiner Initials	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	1	5,584,564		Phyle	12/17/1996	
	2	5,349,975		Vimagda Valdner	9/27/1994	
	3	5,172,711		Erna Mueller et al.	12/22/1992	
		6,017,188		Carolyn Benton	1/25/2000	

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Examiner Initials	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	r <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
			WO 93/00840			1/21/1993		

Examiner Signature	Date Considered
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<sup>1</sup>Unique citation designation number. <sup>2</sup>See attached Kinds of U.S. Patent Documents. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent document, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language translation is attached.



(12) **United States Patent**  
**Kuelbs**

(10) **Patent No.:** US 6,612,713 B1  
(45) **Date of Patent:** Sep. 2, 2003

- (54) **UMBRELLA APPARATUS** 5,172,711 A \* 12/1992 Mueller et al. .... 135/16  
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 (75) **Inventor:** Gregory G. Kuelbs, Westlake, TX (US) 5,349,975 A 9/1994 Valdner ..... 135/16  
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 (73) **Assignee:** World Factory, Inc., Southlake, TX (US)

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(\* ) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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 (74) *Attorney, Agent, or Firm*—James E. Walton; Melvin A. Hunn; Hill & Hunn LLP

- (21) **Appl. No.:** 10/068,424  
 (22) **Filed:** Feb. 7, 2002

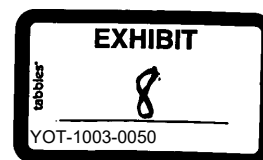
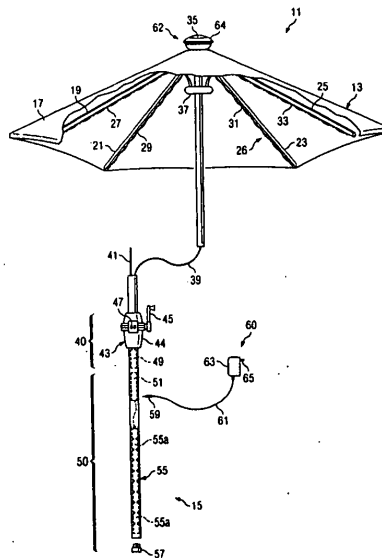
(57) **ABSTRACT**

- Related U.S. Application Data**  
 (60) Provisional application No. 60/335,933, filed on Nov. 2, 2001, and provisional application No. 60/267,018, filed on Feb. 7, 2001.  
 (51) **Int. Cl.** 7 ..... A45B 23/00  
 (52) **U.S. Cl.** ..... 362/102; 362/96; 362/209; 362/276  
 (58) **Field of Search** ..... 362/96, 102, 577, 362/209, 276

A lawn or patio umbrella with an integral lighting system that utilizes cold cathode ray tubes, light emitting diodes (LED’s), or florescent lights, to provide relatively bright-outdoor light for reading and other activities that require relatively high light intensities is provided. In one embodiment, a modular, electrically powered lawn or patio umbrella in which lighting systems, such as those utilizing cold cathode tubes, LED’s, or florescent lights; cooling systems, such as those utilizing electric fans or misting systems; and motorized retraction systems; can be selectively interchanged is provided.

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14 Claims, 11 Drawing Sheets



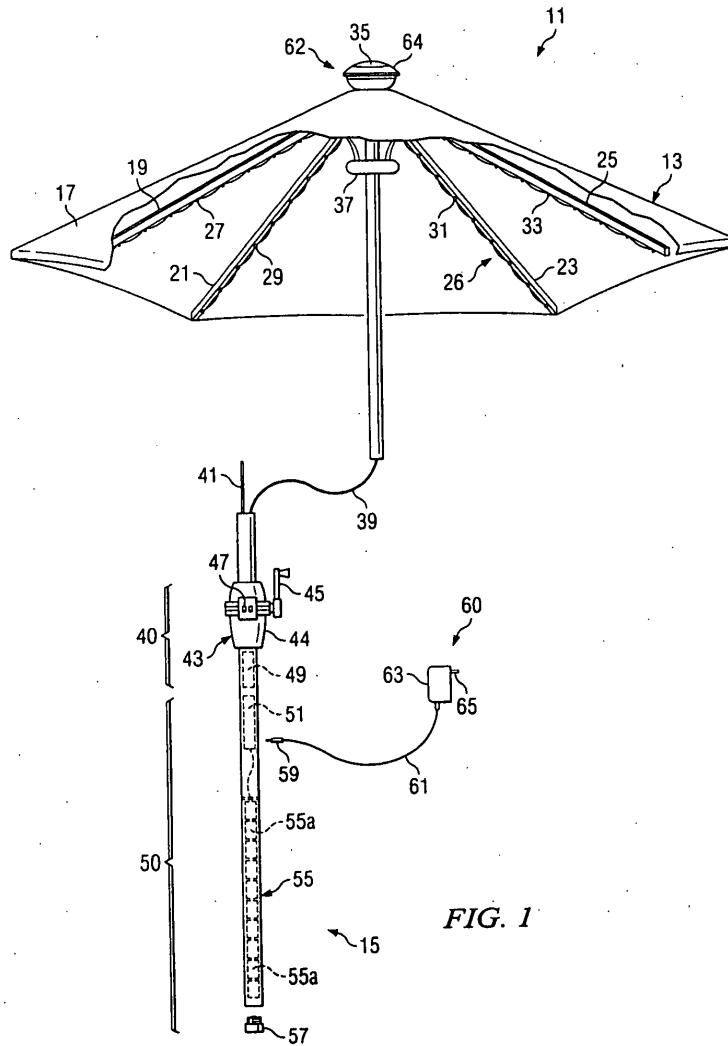


FIG. 1

YOT-1003-0051

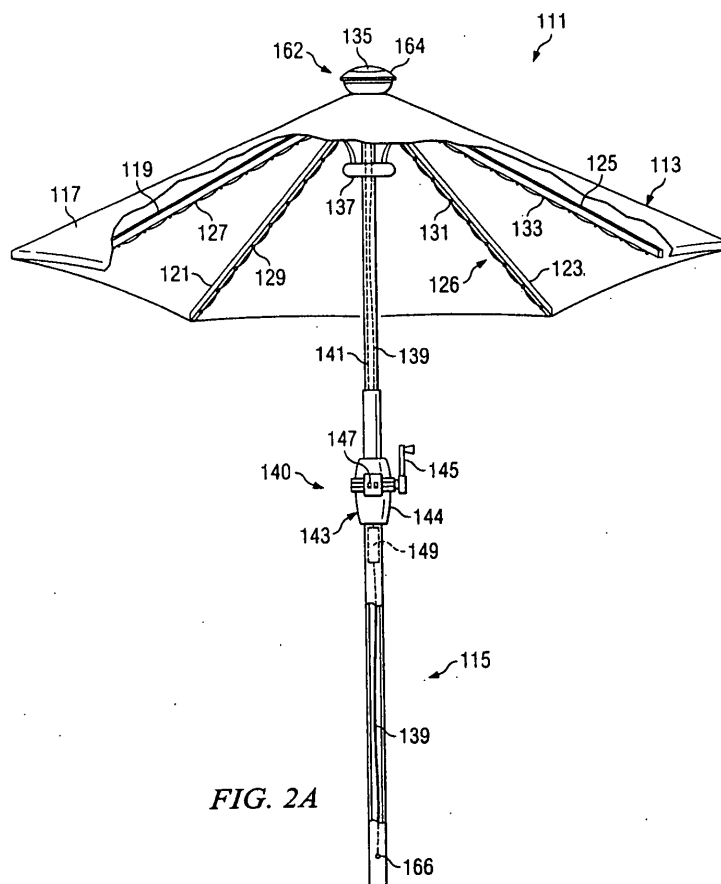


FIG. 2A

YOT-1003-0052

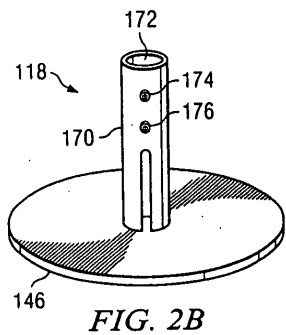


FIG. 2B

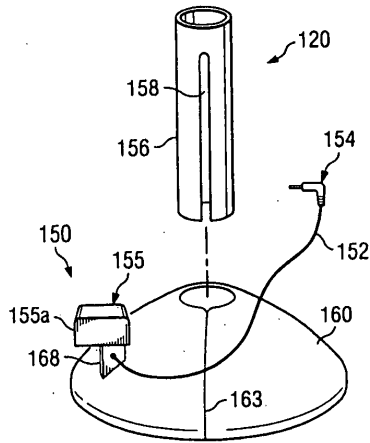


FIG. 2C

YOT-1003-0053

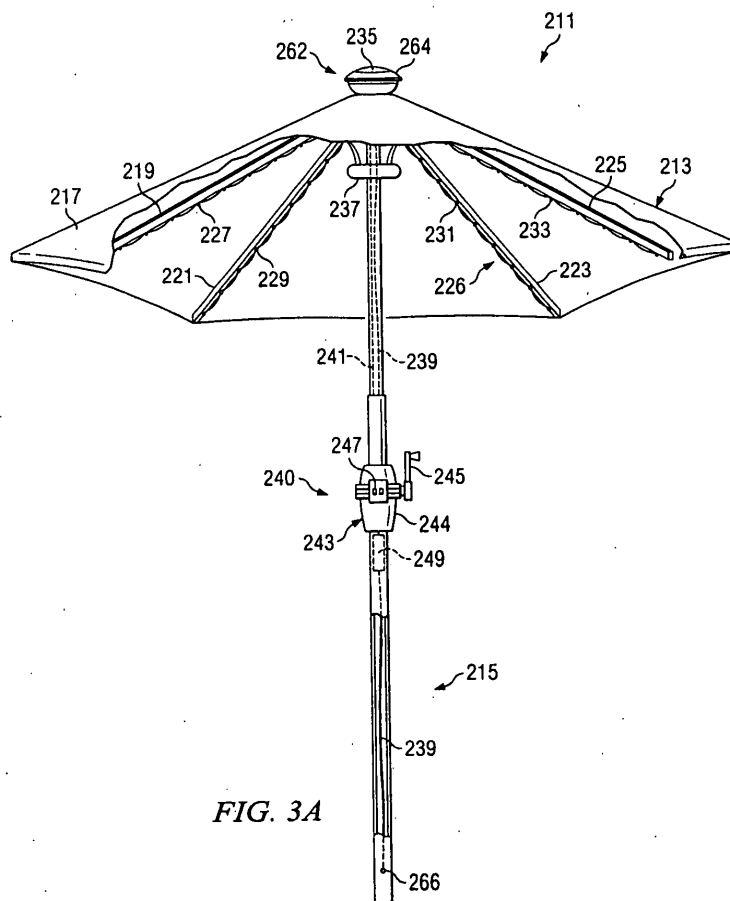
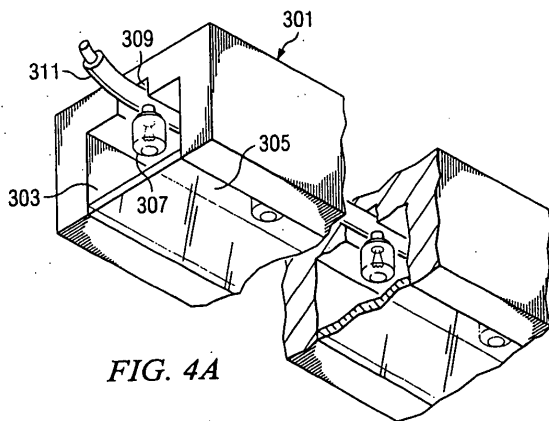
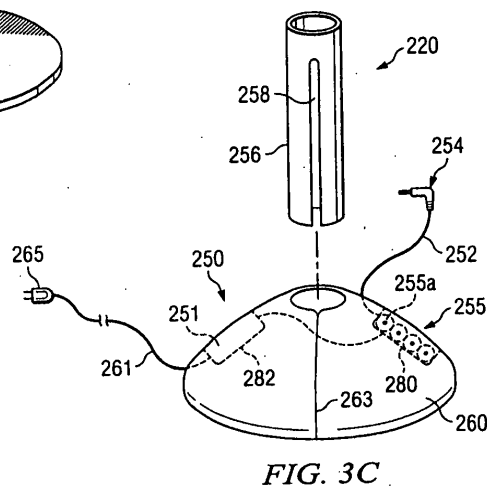
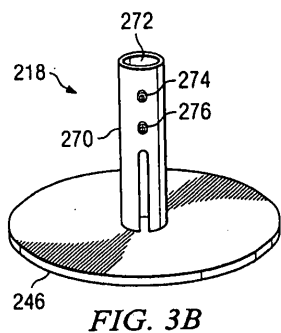


FIG. 3A

YOT-1003-0054



YOT-1003-0055

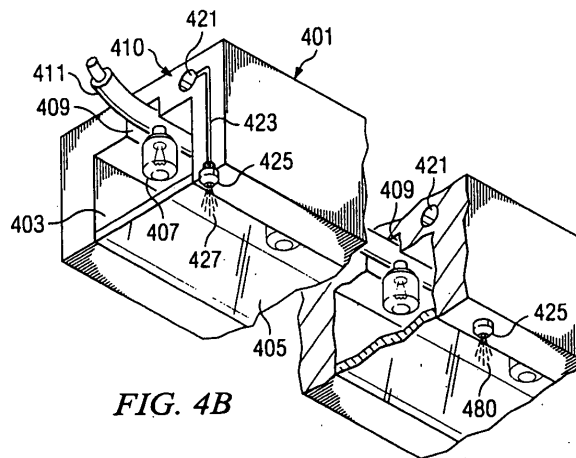


FIG. 4B

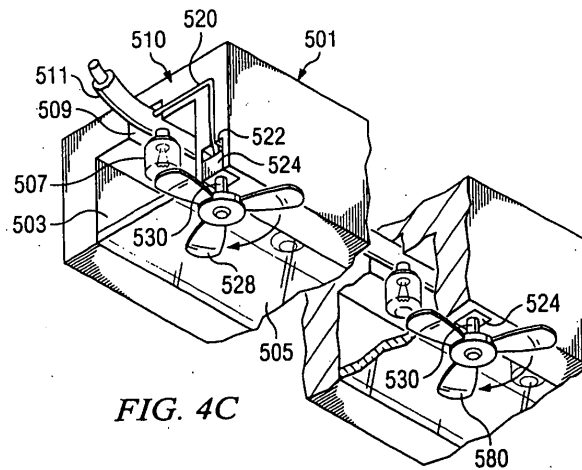


FIG. 4C

YOT-1003-0056



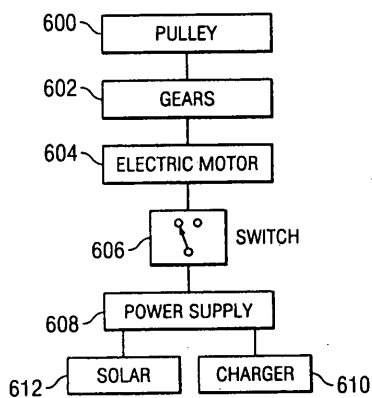


FIG. 5A

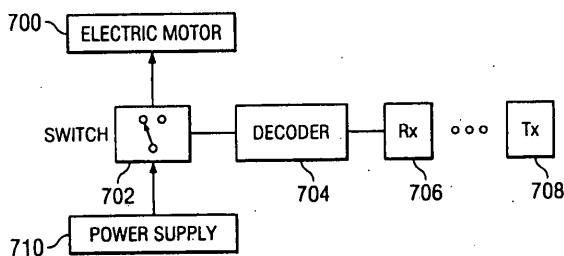


FIG. 5B

YOT-1003-0057

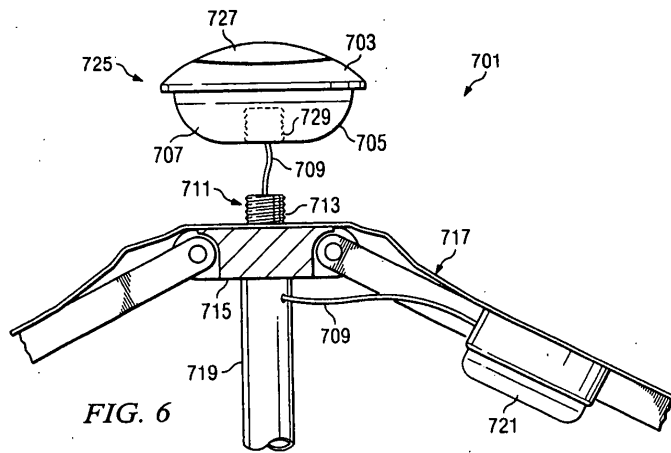


FIG. 6

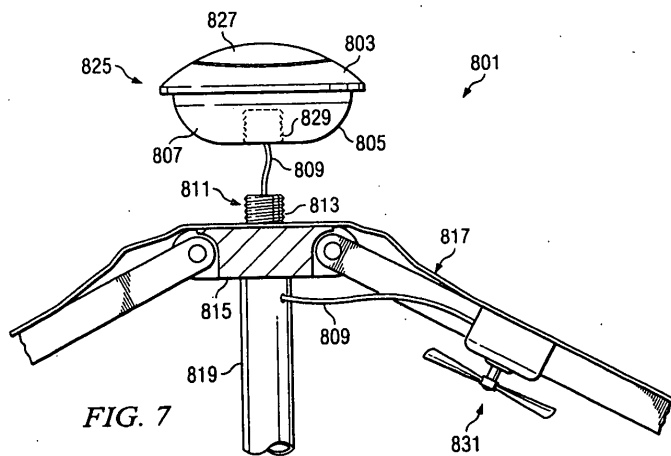
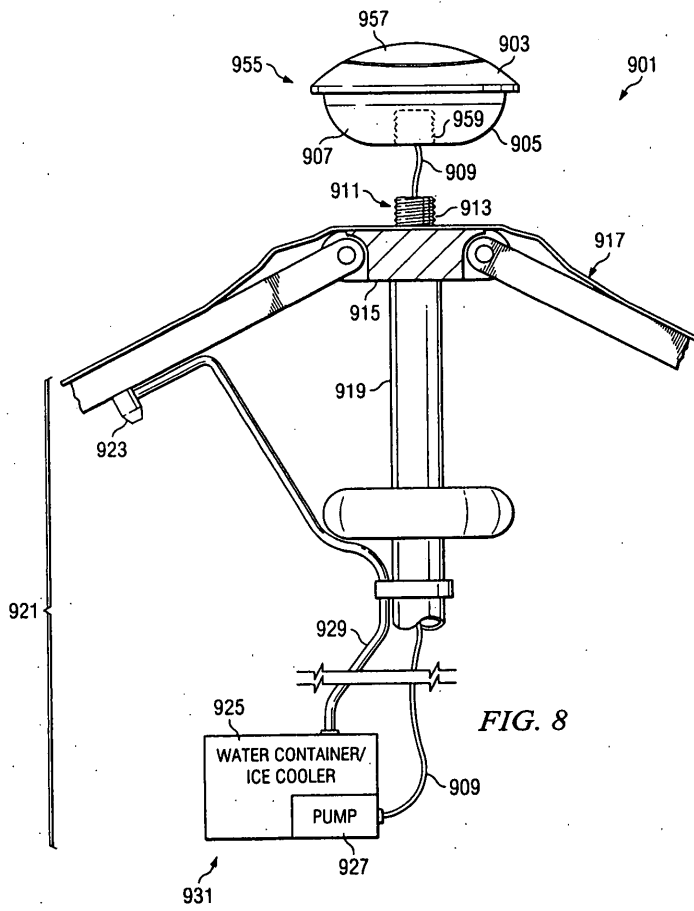


FIG. 7

YOT-1003-0058



YOT-1003-0059

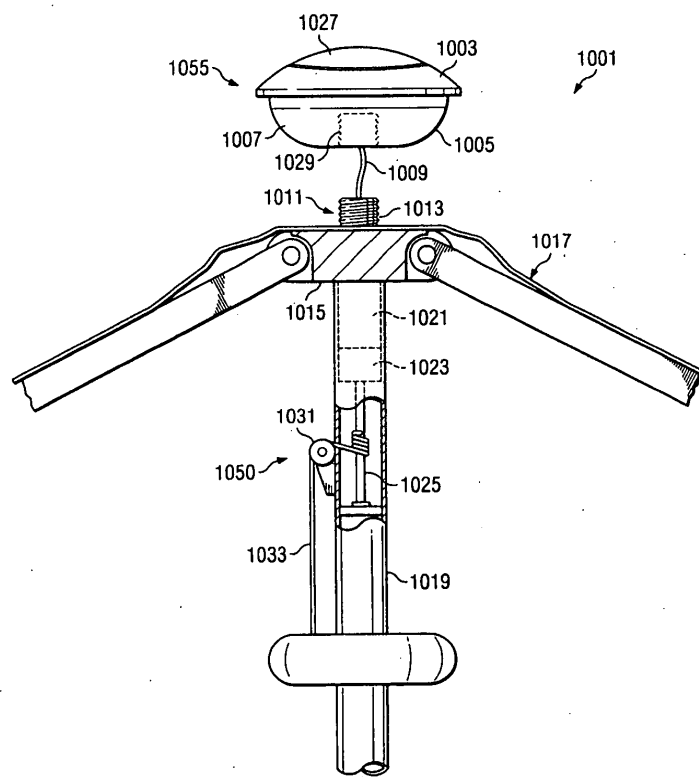


FIG. 9

YOT-1003-0060

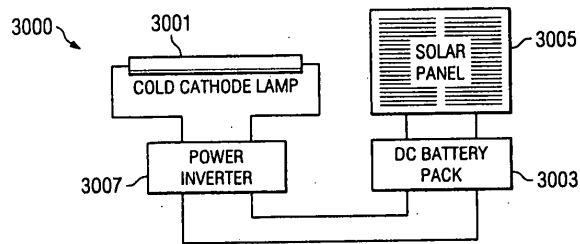


FIG. 10

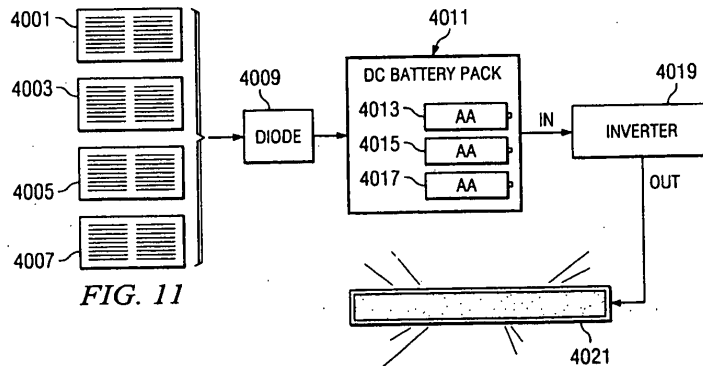


FIG. 11

YOT-1003-0061

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## UMBRELLA APPARATUS

This application claims the benefit of U.S. Provisional Application No. 60/267,018, filed Feb. 7, 2001, titled "Lighted Patio Umbrella Apparatus;" and of U.S. Provisional Application No. 60/335,933, filed Nov. 2, 2001, titled "Outdoor Lighting Systems with Cold Cathode Tubes."

## BACKGROUND OF THE INVENTION

## 1. Field of the Invention

The present invention relates in general to patio umbrellas, and in particular, to an improved patio umbrella with integral lighting system and other modular electronic systems and components.

## 2. Description of the Prior Art

There has been a recent increase in the interest in entertaining in a lawn and garden environment. Patio furniture is quite popular and useful for outdoor entertaining, especially in portions of the country that have warmer climates. However, the sun often presents an impediment to such outdoor entertaining. Consequently, sales have increased for relatively large patio and table umbrellas for use in shielding or shading table areas and people sitting around the tables from direct exposure to the sunlight. Given the relatively high degree of interest in patio umbrellas, it is likely that improved umbrellas, or umbrellas with enhanced functions, will be well received in the marketplace.

## SUMMARY OF THE INVENTION

It is one objective of the present invention to provide a lawn or patio umbrella with an integral lighting system that utilizes cold cathode tubes, light emitting diodes (LED's), or fluorescent lights, to provide relatively bright outdoor light for reading and other activities that require relatively high light intensities.

It is another objective of the present invention to provide a lawn or patio umbrella with an integral lighting system that utilizes cold cathode tubes, LED's, or fluorescent lights, to provide relatively bright outdoor light, and its own rechargeable power supply, including solar cells.

It is yet another objective of the present invention to provide a lawn or patio umbrella with an integral lighting system that utilizes cold cathode tubes, LED's, or fluorescent lights, to provide relatively bright outdoor light, and a motorized retraction system that aids in opening and closing the umbrella.

It is yet another objective of the present invention to provide a lawn or patio umbrella with an integral lighting system that utilizes cold cathode tubes, LED's, or fluorescent lights, to provide relatively bright outdoor light, and a cooling system, such as one that utilizes electric fans or misting systems.

It is yet another objective of the present invention to provide a modular, electrically powered lawn or patio umbrella in which lighting systems, such as those utilizing cold cathode tubes, LED's, or fluorescent lights; cooling systems, such as those utilizing electric fans or misting systems; and motorized retraction systems; can be selectively interchanged.

The above objects are achieved, for example, by integrating a rechargeable power system, a lighting system, a motorized retraction system, and/or a cooling system into a relatively large patio umbrella. The resulting umbrella does not have to be connected to a household electrical system, is a relatively low power consuming device, does not generate

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much heat, provides a high amount of light intensity, reduces the overall energy consumption of outdoor lighting, allows for fewer batteries to be utilized in each lighting fixture, allows for easier recharging of the batteries due to the lower power requirements, and allows the utilization of smaller photovoltaic solar cells.

In the embodiment that utilizes a cold cathode tube, one additional advantage is that the cold cathode tube may be operated at multiple voltage levels to provide differing amounts of light output. In one particular embodiment, a wireless receiver and transmitter pair may be utilized to allow an operator to use a wireless command signal to change the operating state of the lighting system, such as switching the system between an on and off condition, and switching the system between varying levels of light output. Accordingly, an operator may intensify the light output from the lighting system through use of a wireless handheld transmitter when he wants additional light from a particular umbrella.

## BRIEF DESCRIPTION OF THE DRAWINGS

The novel features believed characteristic of the invention are set forth in the appended claims. However, the invention itself, as well as a preferred mode of use and further objectives and advantages thereof, will best be understood by reference to the following detailed description of the preferred embodiment when read in conjunction with the following drawings.

FIG. 1 is a fragmentary and sectional view of the preferred embodiment of the lighted umbrella with motorized opening and closing system according to the present invention.

FIGS. 2A, 2B, and 2C are pictorial, fragmentary, and section views of an alternate embodiment of the present invention which is directed to a lighted umbrella with a stand and a single battery and removable base cover.

FIGS. 3A, 3B, and 3C are pictorial, fragmentary, and partial section views of another alternate embodiment of the present invention which is directed to a lighted umbrella with a stand, charger, batteries, and removable battery cover.

FIG. 4A is a fragmentary and sectional view of another alternate embodiment of the present invention which is directed to a lighted umbrella with recessed lighting.

FIG. 4B is a fragmentary and sectional view of another alternate embodiment of the present invention which is directed to a lighted umbrella with integral misting system.

FIG. 4C is a fragmentary and sectional view of another alternate embodiment of the present invention which is directed to a lighted umbrella with an integral fan system.

FIG. 5A is a block diagram representation of the motorized opening and closing system of the umbrella of FIG. 1 and of the other embodiments of the umbrella of the present invention.

FIG. 5B is a block diagram representation of an alternate embodiment of the motorized opening and closing system of FIG. 5A.

FIG. 6 is a simplified schematic of an alternative embodiment of the present invention which is directed to a lighted umbrella with a top-mounted power unit and a cold cathode tube lighting system.

FIG. 7 is a simplified schematic of an alternative embodiment of the present invention which is directed to an umbrella with a top-mounted power unit and an electric fan cooling system.

FIG. 8 is a simplified view of an alternative embodiment of the present invention which is directed to an umbrella with a top-mounted power unit and a mist producing cooling system.

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FIG. 9 is a simplified schematic of an alternate embodiment of the present invention that is directed to an umbrella with a top-mounted power unit and a motorized opening and closing system.

FIG. 10 is a schematic of one broad implementation of the present invention.

FIG. 11 is a block diagram representation of the present invention.

#### DETAILED DESCRIPTION OF THE INVENTION

Referring to FIG. 1 in the drawings, one embodiment of an umbrella apparatus according to the present invention is illustrated. Umbrella apparatus 11 includes an umbrella portion 13 and a hollow tubular pole portion 15. Pole portion 15 is coupled to and supports umbrella portion 13. Umbrella portion 13 is preferably retractable and may be moved between a raised, or expanded open position, which is shown; and a lowered, or retracted, closed position in which umbrella portion is collapsed down about pole portion 15, as is conventional. A flexible canopy 17 is attached to and covers umbrella portion 15. Canopy 17 is supported by a plurality of rib members 19, 21, 23, and 25. Rib members 19, 21, 23, and 25 are preferably hingedly coupled to pole portion 15 at an upper portion of pole portion 15. An integral lighting system 26 is carried by at least one of rib members 19, 21, 23, or 25. Lighting system 26 provides high intensity light to umbrella apparatus 11 and the surrounding area. In the embodiment of FIG. 1, lighting system 26 preferably utilizes a cold cathode tube which will be described in greater detail herein.

Umbrella apparatus 11 may include a base member adapted to receive pole portion 15 and to support umbrella apparatus 11 in a generally upright position. Although not shown in the embodiment FIG. 1, other embodiments of the present invention depict a variety of conventional and novel base members, any of which may be utilized with the embodiment of FIG. 1. It should be understood that in all of the embodiments of the present invention discussed herein, umbrella apparatus 11 may be used with little or no base member whatsoever, provided there is a table or some other support structure, including the ground, which may be adapted to receive pole portion 15. For example, many patio tables are designed with central apertures to receive, support, and stabilize relatively large umbrellas. In some cases, the patio tables eliminate the need for a base member all together.

In accordance with the preferred embodiment of the present invention, light system 26 includes a plurality of light strands 27, 29, 31, and 33 attached to rib members 19, 21, 23, and 25. Each light strand 27, 29, 31, and 33 includes electrical wiring 39 which conductively connects a plurality of small cold cathode tube light bulbs together for providing the high intensity light under canopy 17 and in the area surrounding umbrella apparatus 11. A wiring ring 37 secures and locates electrical wiring 39 of light strands 27, 29, 31, and 33, so that electrical wiring 39 may be passed through the hollow interior of pole portion 15 to a power source, as will be described in detail below.

Umbrella apparatus 11 includes an optional opening and closing system 40 that aids in expanding umbrella portion 13 into the open condition and retracting umbrella portion 13 into the closed condition. Opening and closing system 40 includes a cable system 41, a gear and pulley system 43 housed in a crank case 44, and a manual crank 45. Crank case 44 is preferably located on pole portion 15 such that

crank case 44 is accessible when umbrella portion 13 is in the fully retracted position against pole portion 15. Cable system 41 is coupled between rib members 19, 21, 23, and 25 and gear and pulley system 43, and is preferably disposed within the hollow interior of pole portion 15. Manual crank 45 is coupled to gear and pulley system 43 so as to allow manual opening and closing of umbrella portion 13.

Opening and closing system 40 may be automated by the inclusion of an electric screw driver motor 49, or other similar relatively small diameter motor assembly, and one or more operational switches 47. Motor 49 is preferably disposed within the hollow interior of pole portion 15 and is coupled to gear and pulley system 43. Operational switches 47 are preferably carried by crank case 44, and include one or more switches for controlling the operation of motor 49. With the inclusion of motor 49, a user may expand and retract umbrella portion 13 simply by pressing the appropriate operational switch 47. This feature is particularly advantageous when used with large umbrellas which may be relatively heavy and awkward to operate, or when the user lacks sufficient strength to expand or retract umbrella portion 13.

Umbrella apparatus 11 includes a power system 50 having a power source 55. In this embodiment, power source 55 is preferably disposed in the hollow interior of pole portion 15 at a lower extremity and comprises one or more rechargeable batteries 55a. A releasable end cap 57 having integral ground connectors is provided at the lowermost portion of pole portion 15 to complete the electrical circuit of power system 50 and to allow access to rechargeable batteries 55a, as rechargeable batteries 55a may have to be periodically replaced. Power system 50 provides electrical power to lighting system 26 and opening and closing system 40. An external power system charger 51 is electrically coupled to power system 50 to aid in repeatedly charging rechargeable batteries 55a. As is shown in FIG. 1, an external adapter 60 may be provided. External adapter 60 includes a relatively small plug 59 that is adapted to be conductively received by external power system charger 51, an extension cord 61, an electrical transformer 63, and terminals 65 that allow transformer 63 to be plugged into a conventional AC wall outlet. This allows power system charger 51 to receive power directly from a conventional AC wall outlet in order to recharge rechargeable batteries 55a.

In accordance with a preferred embodiment of the present invention, an alternative power system charger 62 may be provided. Alternate power system charger 62 includes at least one solar cell 35 carried by an upper cap portion 64. Solar cells 35 are conductively coupled to power system charger 51 via wires (not shown) that pass through the hollow interior of pole portion 15, thereby allowing solar cells 35 to provide an electrical charge to recharge rechargeable batteries 55a, provided sunlight falls upon solar cells 35. Because solar cells 35 provide continuous recharging throughout the daylight hours, the amount and frequency of charging power system 50 with external power system charger 60 may be minimized. It is important to note that locating alternate power system charger 62 atop umbrella portion 13 is unique and advantageous, particularly when alternate power system charger 62 includes solar cells 35 or other types of solar energy collectors. Such location limits the visibility of alternate power system charger 62 and ensures that solar energy collection is maximized.

The embodiment depicted in FIG. 1 is advantageous over the prior art in that it provides a number of useful functions. Umbrella apparatus 11 is lighted by lighting system 26 which does not require continuous access to a conventional

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AC wall outlet, while providing high intensity light. This allows umbrella apparatus 11 to be placed in a relatively remote lawn or garden locations that are away from, or substantially removed from, conventional AC power outlets. During daylight hours, solar cells 35 provide a continuous trickle charge to recharge rechargeable batteries 55a, thereby reducing the need for and frequency of use of external power system charger 60. However, when an electrical charge is needed, external power system charger 60 may be utilized to directly charge power system charger 51. Of course, a conventional extension cord may be used, thereby eliminating the need to move umbrella apparatus 11 from its remote location to a location near an AC power outlet.

Referring now to FIGS. 2A-2C in the drawings, another embodiment of the present invention is illustrated. In this embodiment, an umbrella apparatus 111 includes an umbrella portion 113, a pole portion 115, a stand portion 118, and a base portion 120 adapted to house a rechargeable power system 151. Umbrella apparatus 111 includes a lighting system 126 and may include a motorized opening and closing system 140. Umbrella portion 113 is preferably retractable and may be moved between a raised, or expanded open position, which is shown; and a lowered, or retracted, closed position in which umbrella portion is collapsed down about pole portion 115, as is conventional. A flexible canopy 117 is attached to and covers umbrella portion 113. Canopy 117 is supported by a plurality of rib members 119, 121, 123, and 125. Rib members 119, 121, 123, and 125 are preferably hingedly coupled to pole portion 115 at an upper portion of pole portion 115. An integral lighting system 126 is carried by at least one of rib members 119, 121, 123, or 125. Lighting system 126 provides high intensity light to umbrella apparatus 111 and the surrounding area. In the embodiment of FIGS. 2A-2C, lighting system 126 preferably utilizes a cold cathode tube which will be described in greater detail herein.

Lighting system 126 includes a plurality of light strands 127, 129, 131, and 133 attached to rib members 119, 121, 123, and 125. Each light strand 127, 129, 131, and 133 includes electrical wiring 139 which conductively couples a plurality of small cold cathode tube light bulbs together for providing the high intensity light under canopy 117 and in the area surrounding umbrella apparatus 111. A wiring ring 137 secures and locates electrical wiring 139 of light strands 127, 129, 131, and 133, so that electrical wiring 139 may be passed through the hollow interior of pole portion 115 to a power source, as will be described in detail below.

Umbrella apparatus 111 includes an optional opening and closing system 140 that aids in expanding umbrella portion 113 into the open condition and retracting umbrella portion 113 into the closed condition. Opening and closing system 140 includes a cable system 141, a gear and pulley system 143 housed in a crank case 144, and a manual crank 145. Crank case 144 is preferably located on pole portion 115 such that crank case 144 is accessible when umbrella portion 113 is in the fully retracted position against pole portion 115. Cable system 141 is coupled between rib members 119, 121, 123, and 125 and gear and pulley system 143, and is preferably disposed within the hollow interior of pole portion 115. Manual crank 145 is coupled to gear and pulley system 143 so as to allow manual opening and closing of umbrella portion 113.

Opening and closing system 140 may be automated by the inclusion of an electric screw driver motor 149, or other similar relatively small diameter motor assembly, and one or more operational switches 147. Motor 149 is preferably

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disposed within the hollow interior of pole portion 115 and is coupled to gear and pulley system 143. Operational switches 147 are preferably carried by crank case 144, and include one or more switches for controlling the operation of motor 149. With the inclusion of motor 149, a user may expand and retract umbrella portion 113 simply by pressing the appropriate operational switch 147. This feature is particularly advantageous when used with large umbrellas which may be relatively heavy and awkward to operate, or when the user lacks sufficient strength to expand or retract umbrella portion 113.

Umbrella apparatus 111 includes a power system 150 having a power source 155. In this embodiment, power source 155 is preferably adapted to be conductively coupled to base portion 120 and comprises a rechargeable battery pack 155a, preferably an 18-Volt rechargeable battery pack. Battery pack 155a is preferably the type of rechargeable battery that is utilized with most modern cordless power tools, such as drills, saws, and sanders. Battery pack 155a is adapted to be repeatedly recharged by plugging battery pack 155a into a conventional charger (not shown) that is plugged into a conventional AC power outlet. Power system 150 provides electrical power to lighting system 126 and opening and closing system 140.

In accordance with a preferred embodiment of the present invention, an alternate power system charger 162 may be provided. Alternate power system charger 162 includes at least one solar cell 135 carried by an upper cap portion 164. Solar cells 135 are conductively coupled to power system 150 via wires (not shown) that pass through the hollow interior of pole portion 115, thereby allowing solar cells 135 to provide an electrical charge to recharge rechargeable battery pack 155a, provided sunlight falls upon solar cells 135. Because solar cells 135 provide continuous recharging throughout the daylight hours, the frequency with which battery pack 155a must be replaced or recharged may be minimized. It is important to note that locating alternate power system charger 162 atop umbrella portion 113 is unique and advantageous, particularly when alternate power system charger 162 includes solar cells 135 or other types of solar energy collectors. Such location limits the visibility of alternate power system charger 162 and ensures that solar energy collection is maximized.

Stand portion 118 includes an upright shaft portion 170 having a central aperture 172 that is adapted to receive the pole portion 115 of umbrella apparatus 111. A plurality of screw clamps 174 and 176 are provided to secure pole portion 115 within shaft portion 170. A bottom portion 146 is provided to stabilize umbrella apparatus 111 while umbrella apparatus 111 is installed within stand portion 118.

Base portion 120 includes a removable cylindrical sleeve 156, a removable cover 160, and a receiver 168. Sleeve 156 is configured to slip over the exterior of shaft portion 170, and includes a longitudinal slot 158 that allows access to screw clamps 174 and 176 when sleeve 156 is placed over shaft portion 170. Slot 158 also allows access to a connector 166 disposed in the lower portion of pole portion 115 when sleeve 156 is placed over shaft portion 170. Connector 166 is conductively coupled to the wires from alternate power system charger 162 and solar cells 135. Cover 160 is preferably concave in shape, thereby defining an interior space which may be used to house the electronics (not shown) of power system 150. Cover 160 may include one or more seams 163 that allow access to the interior space defined by cover 160. Receiver 168 releasably receives battery pack 155a. A wire 152 and plug 154 conductively couple battery pack 155a to connector 166, thereby provid-

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ing an electrical circuit between rechargeable battery pack 155a and light strands 119, 121, 123, and 125 of lighting system 126.

The embodiment depicted in FIGS. 2A-2C is advantageous over the prior art in that it provides a number of useful functions. Umbrella apparatus 111 is lighted by lighting system 126 which does not require continuous access to a conventional AC wall outlet, while providing high intensity light. This allows umbrella apparatus 111 to be placed in a relatively remote lawn or garden locations that are away from, or substantially removed from, conventional AC power outlets. During daylight hours, solar cells 135 provide a continuous trickle charge to recharge rechargeable battery pack 155a, thereby reducing the frequency with which battery pack 155a must be replaced or recharged. Additionally, this embodiment is advantageous over the prior art in that conventional rechargeable battery packs, which are commonly used with cordless power tools, may be utilized. If battery pack 155a is insufficiently charged illuminate light strands 119, 121, 123, and 125 of light system 126, the user may simply replace battery pack 155a with another fully charged battery pack 155a. In this manner, lighting system 126 of umbrella apparatus 111 may be energized conveniently, even though umbrella apparatus 111 may be located extremely remotely from an AC power outlet, such as in a garden patio, or on a boat dock. In this embodiment, there is no need to use extension cords to charge an alternate power system charger.

Referring now to FIGS. 3A-3C in the drawings, another embodiment of the present invention is illustrated. In this embodiment, an umbrella apparatus 211 includes an umbrella portion 213, a pole portion 215, a stand portion 218, and a base portion 220 adapted to house a rechargeable power system 251. Umbrella apparatus 211 includes a lighting system 226 and may include a motorized opening and closing system 240. Umbrella portion 213 is preferably retractable and may be moved between a raised, or expanded open position, which is shown; and a lowered, or retracted, closed position in which umbrella portion is collapsed down about pole portion 215, as is conventional. A flexible canopy 217 is attached to and covers umbrella portion 215. Canopy 217 is supported by a plurality of rib members 219, 221, 223, and 225. Rib members 219, 221, 223, and 225 are preferably hingedly coupled to pole portion 215 at an upper portion of pole portion 215. An integral lighting system 226 is carried by at least one of rib members 219, 221, 223, or 225. Lighting system 226 provides high intensity light to umbrella apparatus 211 and the surrounding area. In the embodiment of FIGS. 3A-3C lighting system 226 preferably utilizes a cold cathode tube which will be described in greater detail herein.

Lighting system 226 includes a plurality of light strands 227, 229, 231, and 233 attached to rib members 219, 221, 223, and 225. Each light strand 227, 229, 231, and 233 includes electrical wiring 239 which conductively couples a plurality of small cold cathode tube light bulbs together for providing the high intensity light under canopy 217 and in the area surrounding umbrella apparatus 211. A wiring ring 237 secures and locates electrical wiring 239 of light strands 227, 229, 231, and 233, so that electrical wiring 239 may be passed through the hollow interior of pole portion 215 to a power source, as will be described in detail below.

Umbrella apparatus 211 includes an optional opening and closing system 240 that aids in expanding umbrella portion 213 into the open condition and retracting umbrella portion 213 into the closed condition. Opening and closing system 240 includes a cable system 241, a gear and pulley system

243 housed in a crank case 244, and a manual crank 245. Crank case 244 is preferably located on pole portion 215 such that crank case 244 is accessible when umbrella portion 213 is in the fully retracted position against pole portion 215. Cable system 241 is coupled between rib members 219, 221, 223, and 225 and gear and pulley system 243, and is preferably disposed within the hollow interior of pole portion 215. Manual crank 245 is coupled to gear and pulley system 243 so as to allow manual opening and closing of umbrella portion 213.

Opening and closing system 240 may be automated by the inclusion of an electric screw driver motor 249, or other similar relatively small diameter motor assembly, and one or more operational switches 247. Motor 249 is preferably disposed within the hollow interior of pole portion 215 and is coupled to gear and pulley system 243. Operational switches 247 are preferably carried by crank case 244, and include one or more switches for controlling the operation of motor 249. With the inclusion of motor 249, a user may expand and retract umbrella portion 213 simply by pressing the appropriate operational switch 247. This feature is particularly advantageous when used with large umbrellas which may be relatively heavy and awkward to operate, or when the user lacks sufficient strength to expand or retract umbrella portion 213.

Umbrella apparatus 211 includes a power system 250 having a rechargeable power source 255. In this embodiment, power source 255 is preferably adapted to be conductively coupled to and housed within base portion 220 and comprises a bundle of rechargeable batteries 255a. Power system 250 provides electrical power to lighting system 226 and opening and closing system 240. An external power system charger and transformer 251 is electrically coupled to power system 250 to aid in repeatedly charging rechargeable batteries 255a. An extension cord 261 having terminals 265 allow external power system charger and transformer 251 to be plugged into a conventional AC wall outlet. This allows external power system charger and transformer 251 to receive power directly from a conventional AC wall outlet in order to recharge rechargeable batteries 255a.

In accordance with a preferred embodiment of the present invention, an alternate power system charger 262 may be provided. Alternate power system charger 262 includes at least one solar cell 235 carried by an upper cap portion 264. Solar cells 235 are conductively coupled to power system 250 via wires (not shown) that pass through the hollow interior of pole portion 215, thereby allowing solar cells 235 to provide an electrical charge to recharge rechargeable batteries 255a, provided sunlight falls upon solar cells 235. Because solar cells 235 provide continuous recharging throughout the daylight hours, the frequency with which batteries 255a must be replaced or recharged may be minimized. It is important to note that locating alternate power system charger 262 atop umbrella portion 213 is unique and advantageous, particularly when alternate power system charger 262 includes solar cells 235 or other types of solar energy collectors. Such location limits the visibility of alternate power system charger 262 and ensures that solar energy collection is maximized.

Stand portion 218 includes an upright shaft portion 270 having a central aperture 272 that is adapted to receive pole portion 215 of umbrella apparatus 211. A plurality of screw clamps 274 and 276 are provided to secure pole portion 215 within shaft portion 270. A bottom portion 246 is provided to stabilize umbrella apparatus 211 while umbrella apparatus 211 is installed within stand portion 218.

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Base portion 220 includes a removable cylindrical sleeve 256, a removable cover 260, and recessed portions 280 and 282. Sleeve 256 is configured to slip over the exterior of shaft portion 270, and includes a longitudinal slot 258 that allows access to screw clamps 274 and 276 when sleeve 256 is placed over shaft portion 270. Slot 258 also allows access to a connector 266 disposed in the lower portion of pole portion 215 when sleeve 256 is placed over shaft portion 270. Connector 266 is conductively coupled to the wires from alternate power system charger 262 and solar cells 235. Cover 260 is preferably concave in shape, thereby defining an interior space which may be used to house the electronics (not shown) of power system 250. Cover 260 may include one or more seams 263 that allow access to the interior space defined by cover 260. Recessed portion 280 releasably receives batteries 255a, and recessed portion 282 releasably receives external power system charger 251. A wire 252 and plug 254 conductively couple batteries 255a to connector 266, thereby providing an electrical circuit between rechargeable batteries 255a and light strands 219, 221, 223, and 225 of lighting system 226.

The embodiment depicted in FIGS. 3A-3C is advantageous over the prior art in that it provides a number of useful functions. Umbrella apparatus 211 is lighted by lighting system 226 which does not require continuous access to a conventional AC wall outlet, while providing high intensity light. This allows umbrella apparatus 211 to be placed in a relatively remote lawn or garden locations that are away from, or substantially removed from, conventional AC power outlets. During daylight hours, solar cells 235 provide a continuous trickle charge to recharge rechargeable batteries 255a, thereby reducing the frequency with which batteries 255a must be replaced or recharged. However, when an electrical charge is needed, external power system charger 251 may be utilized to directly charge batteries 255a. Of course, a conventional extension cord may be used, thereby eliminating the need to move umbrella apparatus 211 from its remote location to a location near an AC power outlet.

Referring now to FIG. 4A in the drawings, the preferred embodiment of lighting systems 26, 126, and 226 of the present invention is illustrated. In this embodiment, a plurality of lighting elements 307, preferably cold cathode tube bulbs, are recessed into rib member 301. Rib member 301 is indicative of rib members 19, 21, 23, 25, 119, 121, 123, 125, 219, 221, 223, and 225. As is shown, a cavity 303 is formed within rib 301. Cavity 303 is adapted to receive and hold light bulb 307. A translucent material 305 extends along the entire length of the cavity 303 to protect bulbs 307 from damage and undesirable exposure to weather and other conditions. Translucent material 305 may have a smooth surface or be textured to accentuate or enhance the light from bulbs 307. Although only a single cold cathode tube bulb 307 is illustrated, it should be understood that there may be many bulbs 307 spaced along the length of rib member 301 to illuminate the area under umbrella apparatus 11, 111, or 211. Rib member 301 includes a wiring channel 309 configured to receive a wire 311 that conductively connects all of the bulbs 307 installed in rib member 301, thereby forming an electrical circuit between bulbs 307 and the rechargeable power source, such as power sources 50, 150, and 250. In this manner, recessed lighting, which is carried entirely within rib member 301 and is not otherwise exposed to the elements, is achieved.

Referring now to FIG. 4B in the drawings, an alternate embodiment of lighting systems 26, 126, and 226 of the present invention is illustrated. This embodiment is similar

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to the embodiment of FIG. 4A, with the exception that an integral cooling system 410 has been added. In this embodiment, a plurality of lighting elements 307, preferably cold cathode tube bulbs, are recessed into a rib member 301. Rib member 301 is indicative of rib members 19, 21, 23, 25, 119, 121, 123, 125, 219, 221, 223, and 225. Cooling system 410 comprises a misting means that provides a light mist to cool the area under umbrella apparatus 11, 111, or 211. A cavity 403 is formed within rib member 401. Cavity 403 is adapted to receive and hold light bulb 407. A translucent material 405 extends along the entire length of the cavity 403 to protect bulbs 407 from damage and undesirable exposure to weather and other conditions. Translucent material 405 may have a smooth surface or be textured to accentuate or enhance the light from bulbs 407. Although only a single cold cathode tube bulb 407 is illustrated, it should be understood that there may be many bulbs 407 spaced along the length of rib member 401 to illuminate the area under umbrella apparatus 11, 111, or 211. Rib member 401 includes a wiring channel 409 configured to receive a wire 411 that conductively connects all of the bulbs 407 installed in rib member 401, thereby forming an electrical circuit between bulbs 407 and the rechargeable power source, such as power sources 50, 150, and 250. In this manner, recessed lighting, which is carried entirely within rib member 401 and is not otherwise exposed to the elements, is

A fluid supply channel 421 is provided in order to receive a fluid tight hose which supplies water to a plurality of misting nozzles 425 which generate mist 427 and 480. A fluid discharge channel 423 is provided to carry a fluid tight hose which carries water from the hose in fluid supply channel 421 to misting nozzles 425. In this embodiment, umbrella apparatus should include a small reservoir (not shown) of water or other water source, such as an inlet hose, and an electric pump to pressurize and pump the water through cooling system 410. In this manner, umbrella apparatus 11, 111, or 211 provides both light and a cooling mist to those in close proximity.

Referring now to FIG. 4C in the drawings, another embodiment of lighting systems 26, 126, and 226 of the present invention is illustrated. This embodiment is similar to the embodiment of FIG. 4A, with the exception that a different integral cooling system 510 has been added. In this embodiment, a plurality of lighting elements 507, preferably cold cathode tube bulbs, are recessed into a rib member 501. Rib member 501 is indicative of rib members 19, 21, 23, 25, 119, 121, 123, 125, 219, 221, 223, and 225. Cooling system 510 comprises a fanning means that provides a cool breeze under umbrella apparatus 11, 111, or 211. A cavity 503 is formed within rib member 501. Cavity 503 is adapted to receive and hold light bulb 507. A translucent material 505 extends along the entire length of the cavity 503 to protect bulbs 507 from damage and undesirable exposure to weather and other conditions. Translucent material 505 may have a smooth surface or be textured to accentuate or enhance the light from bulbs 507. Although only a single cold cathode tube bulb 507 is illustrated, it should be understood that there may be many bulbs 507 spaced along the length of rib member 501 to illuminate the area under umbrella apparatus 11, 111, or 211. Rib member 501 includes a wiring channel 509 configured to receive a wire 511 that conductively connects all of the bulbs 507 installed in rib member 501, thereby forming an electrical circuit between bulbs 507 and the rechargeable power source, such as power sources 50, 150, and 250. In this manner, recessed lighting, which is carried entirely within rib member 501 and is not otherwise exposed to the elements, is achieved.

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A wiring conduit 520 is provided which routes electrical wiring from wire 511 to an electric motor 524 carried in a recessed cavity 522. Fanning means 528 and 580, such as fan blades, are carried by rotating shafts 530 which are connected to motors 524. When energized, motors 524 rotate fan blades 528 and 580, thereby providing a cooling breeze under umbrella apparatus 11, 111, and 211. A plurality of fan blade sets 528 and 580 may be located at predetermined locations along the length of rib member 501.

Referring now to FIG. 5A in the drawings, a block diagram representation of the preferred embodiment of opening and closing systems 40, 140, and 240 is illustrated. As is shown, a pulley system 600 is coupled through gears 602 to an electric motor 604. A switch 606 is electrically connected between a power supply 608 and electric motor 604. Power supply 608 is indicative of rechargeable power systems 50, 150, and 250. External power system charger 610 and solar charger 612 are coupled to power supply 608 to recharge the rechargeable battery elements. External power system charger 610 is indicative of external power system chargers 51 and 251. Solar charger 612 is indicative of alternate power system chargers 62, 162, and 262. Mechanical actuation of switch 606 allows current to flow from power supply 608 to electric motor 604. Motor 604 works through gears 602 to operate pulley 600, thereby opening and closing canopy 17, 117, or 217 of umbrella apparatus 11, 111, or 211, respectively.

Referring now to FIG. 5B in the drawings, another embodiment of the opening and closing systems 40, 140, and 240 of the present invention is illustrated. In this embodiment, a wireless transmitter 708 is utilized to transmit encoded signals and remotely communicate with a wireless receiver 706 that is carried by umbrella apparatus 11, 111, or 211, preferably near housings 44, 144, and 244. A decoder 704 is provided to decode the encoded signals. As is conventional with such receivers and transmitters, transmitter 708 and receiver 706 may be adapted to be coded on a particular frequency or coding scheme which enable a dedicated transmitter 708 to actuate a particular receiver 706. A decoder 704 coupled to an electrical switch 702 serves to allow for such identification. Switch 702 controls the application of electrical energy from a power supply 710 to an electric motor 700. Power supply 710 is indicative of rechargeable power systems 50, 150, and 250. Motor 700 is indicative of motors 49, 149, and 249. In this manner, a motorized retraction system may be actuated remotely utilizing wireless transmitter 708.

Referring now to FIGS. 6-9 in the drawings, the preferred embodiments of the umbrella apparatus of the present invention are illustrated. In these embodiments, the rechargeable power source and solar recharging system are mounted atop the pole portion of the umbrella apparatus above the canopy. One concept which runs throughout the embodiments depicted in FIGS. 6-9 is the utilization of a "power unit." This concept involves the placement of a unitary structure at a defined location relative to the umbrella. For example, in the embodiments of FIGS. 6-9, the power unit is shown at a top location directly above the umbrella apparatus, and secured to the pole portion with a threaded coupling. FIG. 6 depicts a top-mounted power unit and a cold cathode tube lighting system. FIG. 7 depicts a top-mounted power unit with a fanning means cooling system. FIG. 8 depicts a top-mounted power unit with mist producing cooling system. FIG. 9 depicts a top-mounted power unit with an automated opening and closing system.

Although FIGS. 6-9 depict power units with a single electrical system, it should be understood that in alternative

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embodiments, one could mix and match these electrical subassemblies such that a single power unit provides electrical power to two or more subassemblies. For example, an umbrella apparatus may include a lighting system and either one or both of the cooling systems described above. Alternatively, an umbrella apparatus may include a lighting system, a cooling system, and an automated opening and closing system as described herein. In this manner, the umbrella apparatus of the present invention is modular such that the different subsystems can be easily mixed and matched.

This modularity allows one to manufacture and sell aftermarket kits which can be installed and interchanged by the umbrella owners. Such kits may include a power unit and one or more of the subsystems, such as a lighting system and/or a cooling system and/or an automated opening and closing system. Because the power unit is relatively self-contained, little interaction is required to attach the power unit to an umbrella apparatus. Alternatively, this modularity in design facilitates the mass manufacture of umbrellas, allowing the electrical system to be manufactured by one factory, and the umbrella systems, which do not include electrical systems, to be manufactured by a different factory. The parts can then be brought together in an assembly area and assembled together.

Referring now specifically to FIG. 6, an umbrella apparatus 701 is illustrated. As is shown, a power unit 725 is provided for connection to the uppermost portion of umbrella apparatus 701. In this embodiment, a cold cathode tube light subassembly 721 is provided for connection at a different location to umbrella apparatus 701. Power unit 725 includes a solar collector 727 at its uppermost portion. Solar collector 727 is preferably carried by a top portion 703 of power unit 725. A bottom portion 705 of power unit 725 defines an interior battery compartment 707. Additionally, power unit 725 carries a coupling mechanism 729 to allow coupling between power unit 725 and a pole portion 719 of umbrella apparatus 701, pole portion 719 being adapted at an upper end 711, preferably with threads 713, to releasably receive power unit 725. A top cap 715 hingedly connects pole portion 719 to a canopy 717. Cold cathode tube light subassembly 721 is coupled at a desired location underneath canopy 717 to provide high intensity light in the area surrounding umbrella apparatus 701. Cold cathode tube light subassembly 721 is conductively coupled to power unit 725 by wiring 709 that passes through the hollow interior of pole portion 719. Such light allows users to read, play games, or perform other leisure activities that require a relatively high intensity light. The electrical components of umbrella apparatus 701 are entirely independent of any household electrical system. The power source, such as power sources 50, 150, and 250, carried by power unit 725 is utilized to energize cold cathode tube light subassembly 721. During daylight hours, solar energy is collected by solar panel 727 and is converted and utilized to recharge the rechargeable power source which is maintained within battery compartment 707.

Cold cathode tube light subassembly 721 is described below in more detail below. As will be appreciated by those skilled in the art, other low power lighting systems may be used instead of cold cathode tube light subassembly 721. For example, an LED or fluorescent lighting subassembly may be utilized instead. LED and fluorescent systems designed for use with solar and low voltage lighting are known in the art. Such alternative lighting sources may be easily used with the present system in manners which are recognized by those skilled in the art. Implementation of

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LED, fluorescent, or other alternate light sources instead of cold cathode tube light subassembly 721 is a straightforward and need not be further described in detail.

Referring now specifically to FIG. 7 in the drawings, an umbrella apparatus 801 is illustrated. As is shown, a power unit 825 is provided for connection to the uppermost portion of umbrella apparatus 801. In this embodiment, a cooling system 821 comprising a fanning means 831 is provided for connection at a different location to umbrella apparatus 801. Power unit 825 includes a solar collector 827 at its uppermost portion. Solar collector 827 is preferably carried by a top portion 803 of power unit 825. A bottom portion 805 of power unit 825 defines an interior battery compartment 807. Additionally, power unit 825 carries a coupling mechanism 829 to allow coupling between power unit 825 and a pole portion 819 of umbrella apparatus 801, pole portion 819 being adapted at an upper end 811, preferably with threads 813, to releasably receive power unit 825. A top cap 815 hingedly connects pole portion 819 to a canopy 817. Cooling system 821 is coupled at a desired location underneath canopy 817 to provide a cooling breeze in the area surrounding umbrella apparatus 801. Cooling system 821 is conductively coupled to power unit 825 by wiring 809 that passes through the hollow interior of pole portion 819. The electrical components of umbrella apparatus 801 are entirely independent of any household electrical system. The power source, such as power sources 50, 150, and 250, carried by power unit 825 is utilized to energize cooling system 821. During daylight hours, solar energy is collected by solar panel 827 and is converted and utilized to recharge the rechargeable power source which is maintained within battery compartment 807.

Referring now specifically to FIG. 8 in the drawings, an umbrella apparatus 901 is illustrated. As is shown, a power unit 955 is provided for connection to the uppermost portion of umbrella apparatus 901. In this embodiment, a cooling system 921 comprising a misting system 931 is provided for connection at a different location to umbrella apparatus 901. Power unit 955 includes a solar collector 957 at its uppermost portion. Solar collector 957 is preferably carried by a top portion 903 of power unit 955 bottom portion 905 of power unit 955 defines an interior battery compartment 907. Additionally, power unit 955 carries a coupling mechanism 959 to allow coupling between power unit 955 and a pole portion 919 of umbrella apparatus 901, pole portion 919 being adapted at an upper end 911, preferably with threads 913, to releasably receive power unit 955. A top cap 915 hingedly connects pole portion 919 to a canopy 917. The electrical components of umbrella apparatus 901 are entirely independent of any household electrical system. The power source, such as power sources 50, 150, and 250, carried by power unit 955 is utilized to energize cooling system 921. During daylight hours, solar energy is collected by solar panel 957 and is converted and utilized to recharge the rechargeable power source which is maintained within battery compartment 907.

Cooling system 921 is coupled at a desired location underneath canopy 917 to provide a cooling mist in the area surrounding umbrella apparatus 901. Cooling system 921 is conductively coupled to power unit 955 by wiring 909 that passes through the hollow interior of pole portion 919. Cooling system 921 is a misting system comprising a reservoir 925, or other water source, a pump 927, water feed lines 929, and mist nozzles 923. Pump 927 pressurizes and pumps the water from reservoir 925 through water feed lines 929 and out of mist nozzles 923, which are located at selected spaced intervals under canopy 917, at a selected

flow rate. Reservoir 925 may be a conventional ice cooler, such that the mist is chilled water.

Referring now specifically to FIG. 9 in the drawings, an umbrella apparatus 1001 is illustrated. As is shown, a power unit 1055 is utilized to provide electrical power to an automated opening and closing system 1050. Power unit 1055 includes a solar collector 1027 at its uppermost portion. Solar collector 1027 is preferably carried by a top portion 1003 of power unit 1055. A bottom portion 1005 of power unit 1055 defines an interior battery compartment 1007. Additionally, power unit 1055 carries a coupling mechanism 1029 to allow coupling between power unit 1055 and a pole portion 1019 of umbrella apparatus 1001, pole portion 1019 being adapted at an upper end 1011, preferably with threads 1013, to releasably receive power unit 1055. A top cap 1015 hingedly connects pole portion 1019 to a canopy 1017. The electrical components of umbrella apparatus 1001 are entirely independent of any household electrical system. Automated opening and closing system 1050 is conductively coupled to power unit 1055 by wiring 1009 that passes through the hollow interior of pole portion 1019. The power source, such as power sources 50, 150, and 250, carried by power unit 1055 is utilized to energize automated opening and closing system 1050. During daylight hours, solar energy is collected by solar panel 1027 and is converted and utilized to recharge the rechargeable power source which is maintained within battery compartment 1007.

Automated opening and closing system 1050 is carried at the uppermost portion of pole portion 1019. Opening and closing system 1050 includes a motor 1021, a transmission 1023, a line winding shaft 1025, a pulley system 1031, and a cable system 1033. These components cooperate to open and close the umbrella in response to the receipt of a command signal. The command signal may be supplied by the actuation of a switch (see FIGS. 1-3) carried on pole portion 1019, or it may be a wireless signal received from a paired transmitter receiver system (see FIG. 5B).

Referring now to FIG. 10 in the drawings, a schematic of the cold cathode tube lighting system of the present invention is illustrated. The invention is to utilize in combination a cold cathode lamp, a power inverter which supplies alternating current to the cold cathode lamp, a rechargeable DC battery pack, and a solar collector. This is depicted in simplified form in FIG. 10. This may be utilized in any outdoor application in which there is no easy or convenient access to household power. The system is entirely self contained and does not require any household power for operation, or charging. As is shown, the cold cathode tube lighting system 3000 includes a cold cathode lamp 3001 that is supplied with AC power from a power inverter 3007. A DC battery pack 3003 includes rechargeable batteries that supply DC current to power inverter 3007. A solar collector 3005 is provided to recharge the batteries contained within DC power pack 3003.

A cold cathode tube is a lamp that produces light by the passage of an electric current through a vapor or gas maintained within a tube. A cold cathode tube does not require any heating above ambient temperature to produce light. The tube is phosphor coated on its inner surface, and thus may emit various colored light. In most cases, cold cathode tube lamps are low-pressure mercury vapor lamps. Such lamps use a 253.7 nanometer ultraviolet emission from mercury vapor excited by an electrical discharge through the lamp to charge the phosphors maintained on the wall of the lamp.

The optimum operating temperature for cold cathode tube is approximately 40 degrees Celsius, although Applicant

believes that these lamps can be produced in a manner to reliably provide outdoor lighting in temperatures as cold as 15 degrees Fahrenheit. While the cold cathode tube does not require heating, the output of the lamp does vary based upon the ambient temperature. At room temperature, the initial output of a lamp is only about seventy percent of its steady state value at 40 degrees Celsius. In contrast, its output is only 25 percent when the lamp is started at zero degrees Celsius. Cold starts do require additional voltage from the power source to ensure reliable operation. However, the number of lamp "starts" has no adverse effect on the lamp. This is not true for fluorescent lamps, which degrade over time due to the number of "starts." Cold cathode tubes may be utilized to supply a white light output.

In the preferred embodiment, a cold cathode tube manufactured by Nanjing Lampus Electronics Company, Ltd. is utilized. Specifically, a lamp type CFL-20 is utilized. This has an inner diameter of 1.5 millimeters. The tube length is variable, and may be anywhere in the range of 50 millimeters to 30 millimeters in overall length. The tube is adapted to operate on four milliamps of tube current. The tube voltage is in the range of 200 to 750 Volts. The average brightness of this particular tube is 40,000 cd/m<sup>2</sup>.

Another advantage of cold cathode tubes is that the tubes can be very thin in diameter. For example, in the preferred implementation, the cold cathode tube may be one or two millimeters in diameter. A cold cathode tube can be bent into any shape and can be formed in very long lengths, such as several feet long. Thus, cold cathode tubes provide greater light output per foot versus conventional lighting.

Another significant advantage of cold cathode tubes is that they have relatively long lamp life. It is not unusual to have lamp lives which are thirty to forty thousand hours of use. In other words, these cold cathode tubes have, for all practical purposes, an infinite life span.

They are low power devices. They do not generate a lot of heat. They provide high lumen output. For these reasons, fewer batteries are needed to drive the cold cathode ray tube, and smaller solar cell panels may be utilized to recharge the batteries. In other words, relatively small form factors can be achieved because the solar cells, the batteries, and the bulbs can be relatively small in size.

The present invention can be implemented on a small, medium, or large scale so the solar cell panels and batteries may be moved up in size to either provide greater light output or to provide for a longer useful life.

Additionally, the present invention may be considered to satisfy three separate and distinct outdoor lighting applications, all of which may be incorporated into the umbrella apparatus of the present invention.

The first application is that of a "special purpose light," or "ask light," such as for security applications. These special purpose lights would provide very light output, for a relatively short duration. One example would be the utilization of the cold cathode ray tube to provide extremely high light output for a very small area for a very short time, all in response to detection of motion in a particular area. For example, a system can be configured to detect motion in a doorway, motion in a yard, motion in a driveway, or the like. The brightness can be provided which can be far in excess of 40,000 cd/m<sup>2</sup>. For example, 100,000 to 200,000 cd/m<sup>2</sup> may be provided for a very small area for a very short duration. For example, the duration may be a few minutes to ten minutes.

The second application requires a medium amount of light output, but requires longer periods of operation or wider

areas of coverage. For example, the light assembly provided with the umbrella provides a relatively high light output, such as in the range of 20,000 to 100,000 cd/m<sup>2</sup>, in order to allow one to read, play games, operate a computer, or do needlework under the umbrella. Preferably, the battery pack and associated solar panel is sufficient to allow the system to operate continuously for a time interval in the range of 8-12 hours. Additionally, and preferably, the solar panel should be of the size and output which is sufficient to fully recharge the battery pack during the daylight hours.

A third application requires a lower level of light intensity. A good example would be lawn, patio, walkway, or landscape lighting. One does not ordinarily expect to be able to read or do intricate work under this type of lighting. In contrast, all that is expected is that a reasonable amount of light be provided to allow one to walk safely through an area. This type of task may require brightness in the range of 6,000 cd/m<sup>2</sup> to 60,000 cd/m<sup>2</sup>.

Referring now to FIG. 11 in the drawings, a block diagram representation of the application of the present invention to a lawn lighting scenario is illustrated. In this scenario, a plurality of solar panels 4001, 4003, 4005, and 4007 are connected together in series. Preferably, solar panels 4001, 4003, 4005, and 4007 are manufactured by Siemens and comprise mono-crystal solar panels, each providing 1.5 Volts. The total current for the array of solar panels is about 80 milliamps. The current from solar panels 4001, 4003, 4005, and 4007 is passed through a diode 4009 and then to a battery pack 4011. Battery pack 4011 includes a plurality of batteries 4013, 4015, and 4017, for example three AA batteries. In alternative embodiments, as few as two batteries may be used. As is shown, each battery is a 1.2 Volt Nickel Cadmium battery. They collectively provide 700 milliamp hours of power.

The output of DC battery pack 4011 is provided as an input to an inverter 4019. Inverter 4019 receives 4.8 Volts DC in and produces as an output of 800 Volts rms AC at 40 Hertz. The total current of the output is 4-6 milliamps.

This is provided to the cathode of a cold cathode ray tube lamp 4021. The current passes through the vapor maintained within cold cathode ray tube lamp 4021 and causes electrons to be stripped from the gas. These electrons collide with the phosphorus coating on the interior surface of cold cathode ray tube lamp 4021, thereby emitting light.

Although the invention has been described with reference to a particular embodiment, this description is not meant to be construed in a limiting sense. Various modifications of the disclosed embodiments as well as alternative embodiments of the invention will become apparent to persons skilled in the art upon reference to the description of the invention. It is therefore contemplated that the appended claims will cover any such modifications or embodiments that fall within the scope of the invention.

What is claimed is:

1. An umbrella apparatus comprising:

- a base support portion;
- a pole portion coupled to the base support portion;
- a canopy portion hingedly coupled to the pole portion;
- a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
- a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable elec-

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trical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet.

2. An umbrella apparatus comprising:

- a base support portion;
- a pole portion coupled to the base support portion;
- a canopy portion hingedly coupled to the pole portion;
- a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
- a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and
- a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system.

3. The umbrella apparatus according to claim 2, wherein the lighting system comprises:

- a plurality of rib members coupled to the canopy portion; and
- a plurality of cold cathode tube elements carried by the rib members, each cold cathode tube element being conductively coupled to and powered by the rechargeable electrical power source.

4. The umbrella apparatus according to claim 2, wherein the lighting system comprises:

- a plurality of rib members coupled to the canopy portion; and
- a plurality of light emitting diode elements carried by the rib members, each light emitting diode element being conductively coupled to and powered by the rechargeable electrical power source.

5. The umbrella apparatus according to claim 2, wherein the lighting system comprises:

- a plurality of rib members coupled to the canopy portion; and
- a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power source.

6. An umbrella apparatus comprising:

- a base support portion;
- a pole portion coupled to the base support portion;
- a canopy portion hingedly coupled to the pole portion;
- a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
- a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and
- an electromechanical opening and closing system for opening and closing the canopy portion, the electro-

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mechanical opening and closing system being conductively coupled to and powered by the rechargeable electrical power system.

7. The umbrella apparatus according to claim 6, wherein the electromechanical opening and closing system comprises:

- an electric motor carried by the pole portion;
- a control system for controlling the electric motor;
- a gear system coupled to the electric motor; and
- a cable and pulley system coupled to the gear system and the canopy portion;

wherein the opening and closing of the canopy portion is achieved by the electric motor in response to selective operation of the control system.

8. The umbrella apparatus according to claim 7, wherein the control system comprises:

- a receiver conductively coupled to the electric motor;
- a remote transmitter for transmitting an encoded signal to the receiver; and
- a decoder conductively coupled to the receiver for decoding the encoded signal from the transmitter.

9. An umbrella apparatus comprising:

- a base support portion;
- a pole portion coupled to the base support portion;
- a canopy portion hingedly coupled to the pole portion;
- a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
- a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and
- a cooling system carried by the canopy portion, the cooling system being conductively coupled to and powered by the rechargeable electrical power system, the cooling system comprising:
- a fluid reservoir operably associated with the umbrella apparatus;
- at least one mist nozzle coupled to the canopy portion, each mist nozzle being in fluid communication with the fluid;
- a conduit creating fluid communication between the fluid reservoir and each mist nozzle; and
- a pump for pumping the fluid from the reservoir through each mist nozzle.

10. An umbrella apparatus comprising:

- a base support portion;
- a pole portion coupled to the base support portion;
- a canopy portion hingedly coupled to the pole portion;
- a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
- a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and
- a combination of two or more of the following modular systems:

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a lighting system carried by the canopy portion;  
an electromechanical opening and closing system for  
opening and closing the canopy portion; or  
a cooling system;  
wherein each modular system is configured to be  
interchanged with each other, each modular system  
being conductively coupled to and powered by the  
rechargeable electrical power system.

11. The umbrella apparatus according to claim 10,  
wherein the lighting system comprises:  
a plurality of rib members coupled to the canopy portion;  
and

a plurality of cold cathode tube elements carried by the rib  
members, each cold cathode tube element being conductively  
coupled to and powered by the rechargeable  
electrical power source.

12. The umbrella apparatus according to claim 10,  
wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion;  
and

a plurality of light emitting diode elements carried by the  
rib members, each light emitting diode element being  
conductively coupled to and powered by the rechargeable  
electrical power source.

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13. The umbrella apparatus according to claim 10,  
wherein the cooling system comprises:

a fluid reservoir operably associated with the umbrella  
apparatus;

at least one mist nozzle coupled to the canopy portion,  
each mist nozzle being in fluid communication with the  
fluid;

a conduit creating fluid communication between the fluid  
reservoir and each mist nozzle; and

a pump for pumping the fluid from the reservoir through  
each mist nozzle.

14. The umbrella apparatus according to claim 10,  
wherein the electromechanical opening and closing system  
comprises:

an electric motor carried by the pole portion;

a control system for controlling the electric motor;

a gear system coupled to the electric motor; and

a cable and pulley system coupled to the gear system and  
the canopy portion;

wherein the opening and closing of the canopy portion is  
achieved by the electric motor in response to selective  
operation of the control system.

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PATENT NUMBER and

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U.S. UTILITY Patent Application

305/579

APPL NUM	FILING DATE	CLASS	SUBCLASS	GAU	EXAMINER
10068424	02/07/2002	362	100	2875	Gregory
**APPLICANTS: Kuelbs Gregory;					
**CONTINUING DATA VERIFIED: THIS APPLN CLAIMS BENEFIT OF 60/267,018 02/07/2001 AND CLAIMS BENEFIT OF 60/335,933 11/02/2001					
** FOREIGN APPLICATIONS VERIFIED:					
FG-PUB DO NOT PUBLISH <input checked="" type="checkbox"/>		RESCIND <input type="checkbox"/>			
Foreign priority claimed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no		35 USC 119 conditions met <input type="checkbox"/> yes <input checked="" type="checkbox"/> no		ATTORNEY DOCKET NO	
Verified and Acknowledged Examiners' Initials <i>Sandra O'Shea 3/17/2003</i>				0638MH-40982-US	
TITLE : Umbrella apparatus					

U.S. DEPT. OF COMM./PAT. & TM.-PTO-4361 (Rev. 12-94)

NOTICE OF ALLOWANCE MAILED		CLAIMS ALLOWED		
3/20/03		Total Claims 14		Print Claim for O.G. 1
ISSUE FEE		DRAWING		
Amount Due 650	Date Paid 6-10-03	Sheets Dwg. 11/2	Figs. Dwg. 18	Print Fig. 1
<input type="checkbox"/> TERMINAL <input checked="" type="checkbox"/> DISCLAIMER		Sandra O'Shea Supervisory Patent Examiner Technology Center 2800 Primary Examiner <i>Sandra O'Shea</i> <b>PREPARED FOR ISSUE</b> Application Examiner <i>April Wise</i> 3/20/03		
<b>WARNING:</b> The information disclosed herein may be restricted. Unauthorized disclosure may be prohibited by the United States Code Title 35, Sections 122, 181 and 368, Possession outside the U.S. Patent & Trademark Office is restricted to authorized employees and contractors only.				

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02/07/02

INITIALS

CONTENTS

	Date Received (Incl. C. of M.) or Date Mailed	Date Received (Incl. C. of M.) or Date Mailed
1. Application papers.		
2. SDS	6/18/02	
3. Non-Final Rejection	10/7/02	
4. Amendment A. C. M. 11	2-24-03	
5. Allowance	3/20/03	
6. Lett. forwarding	6/10/03	
7. Amendment B (NE) etc	6/10/03	
8. Response to file 312	7/28/03	
9. Amendment	6-10-03	
10. Original drawings (11 sheets) etc		
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### SEARCH

Class	Sub.	Date	Exmr.
362/	96	11/4/2002	H. Johnson
	102	↓	↓
	577	↓	↓
	209	↓	↓
	276	↓	↓
↑ upgraded text search for the above indicated class/sub-classes		3/17/2003	↓

### INTERFERENCE SEARCHED

Class	Sub.	Date	Exmr.
All of the above indicated class/sub-classes		3/17/2003	H. Johnson
		↓	↓

### SEARCH NOTES

(List databases searched. Attach search strategy inside.)

	Date	Exmr.
EAST Text Search	12/4/2002	H. Johnson
	12/5/2002	↓
EAST Text Search	3/17/2003	↓

ISSUE SLIP STAPLE AREA (for additional cross-references)

ISSUING CLASSIFICATION			
ORIGINAL		CROSS REFERENCE(S)	
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)
362	102	362	9G 209 276
INTERNATIONAL CLASSIFICATION			
A45B 23 100			
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INDEX OF CLAIMS

✓ Rejected - (Through numeral) Canceled N Non-elected A Appeal  
 Allowed + Restricted I Interference O Objected

Claim	Date	Claim	Date	Claim	Date
Final		Final		Final	
Original		Original		Original	
1	12/14/03	51		101	
2	1/3/03	52		102	
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PATENT APPLICATION SERIAL NO. \_\_\_\_\_

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE  
FEE RECORD SHEET

02/12/2002 HDAWTE1 00066619 10060424  
01 FE:201 379.00 0P

PTO-1556  
(5/87)

\*U.S. GPO: 2000-488-687/39595

YOT-1003-0076

**SPECIFICATION**

Attorney Docket No. 0638MH-40982-US

10066424 020702

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN that I, **Gregory G. Kuelbs**, residing in the city of Westlake, Texas, have invented new and useful improvements in a

**UMBRELLA APPARATUS**

of which the following is a specification.

"EXPRESS MAIL" No. EV024943769US
Date of Deposit: <u>2/7/02</u>
I, hereby certify that this paper or fee is being deposited with the United States Postal Service Express Mail "Post Office to Addressee" service under 37 C.F.R. §1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Box: Patent Application, P.O. Box 2327, Arlington, VA 22202-0327.
by <u><i>Jana E. White</i></u>

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**ABSTRACT OF THE DISCLOSURE**

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A lawn or patio umbrella with an integral lighting system that utilizes cold cathode ray tubes, light emitting diodes (LED's), or florescent lights, to provide relatively bright outdoor light for reading and other activities that require relatively high light intensities is provided. In one embodiment, a modular, electrically powered lawn or patio umbrella in which lighting systems, such as those utilizing cold cathode tubes, LED's, or florescent lights; cooling systems, such as those utilizing electric fans or misting systems; and motorized retraction systems; can be selectively interchanged is provided.

10066424.020702

1 This application claims the benefit of U.S. Provisional Application No. 60/267,018,  
2 filed 7 February 2001, titled "Lighted Patio Umbrella Apparatus;" and of U.S. Provisional  
3 Application No. 60/335,933, filed 2 November 2001, titled "Outdoor Lighting Systems with  
4 Cold Cathode Tubes."

5 **BACKGROUND OF THE INVENTION**

6 **1. Field of the Invention:**

7 The present invention relates in general to patio umbrellas, and in particular, to an  
8 improved patio umbrella with integral lighting system and other modular electronic systems  
9 and components.

10 **2. Description of the Prior Art:**

11 There has been a recent increase in the interest in entertaining in a lawn and  
12 garden environment. Patio furniture is quite popular and useful for outdoor entertaining,  
13 especially in portions of the country that have warmer climates. However, the sun often  
14 presents an impediment to such outdoor entertaining. Consequently, sales have increased  
15 for relatively large patio and table umbrellas for use in shielding or shading table areas and  
16 people sitting around the tables from direct exposure to the sunlight. Given the relatively  
17 high degree of interest in patio umbrellas, it is likely that improved umbrellas, or umbrellas  
18 with enhanced functions, will be well received in the marketplace.

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1 **SUMMARY OF THE INVENTION**

2 It is one objective of the present invention to provide a lawn or patio umbrella with  
3 an integral lighting system that utilizes cold cathode tubes, light emitting diodes (LED's), or  
4 florescent lights, to provide relatively bright outdoor light for reading and other activities that  
5 require relatively high light intensities.

6 It is another objective of the present invention to provide an a lawn or patio umbrella  
7 with an integral lighting system that utilizes cold cathode tubes, LED's, or florescent lights,  
8 to provide relatively bright outdoor light, and its own rechargeable power supply, including  
9 solar cells.

10 It is yet another objective of the present invention to provide a lawn or patio umbrella  
11 with an integral lighting system that utilizes cold cathode tubes, LED's, or florescent lights,  
12 to provide relatively bright outdoor light, and a motorized retraction system that aids in  
13 opening and closing the umbrella.

14 It is yet another objective of the present invention to provide a lawn or patio umbrella  
15 with an integral lighting system that utilizes cold cathode tubes, LED's, or florescent lights,  
16 to provide relatively bright outdoor light, and a cooling system, such as one that utilizes  
17 electric fans or misting systems.

18 It is yet another objective of the present invention to provide a modular, electrically  
19 powered lawn or patio umbrella in which lighting systems, such as those utilizing cold  
20 cathode tubes, LED's, or florescent lights; cooling systems, such as those utilizing electric  
21 fans or misting systems; and motorized retraction systems; can be selectively  
22 interchanged.

23 The above objects are achieved, for example, by integrating a rechargeable power  
24 system, a lighting system, a motorized retraction system, and/or a cooling system into a  
25 relatively large patio umbrella. The resulting umbrella does not have to be connected to a  
26 household electrical system, is a relatively low power consuming device, does not generate  
27 much heat, provides a high amount of light intensity, reduces the overall energy  
28 consumption of outdoor lighting, allows for fewer batteries to be utilized in each lighting



1 fixture, allows for easier recharging of the batteries due to the lower power requirements,  
2 and allows the utilization of smaller photovoltaic solar cells.

3 In the embodiment that utilizes a cold cathode tube, one additional advantage is that  
4 the cold cathode tube may be operated at multiple voltage levels to provide differing  
5 amounts of light output. In one particular embodiment, a wireless receiver and transmitter  
6 pair may be utilized to allow an operator to use a wireless command signal to change the  
7 operating state of the lighting system, such as switching the system between an on and off  
8 condition, and switching the system between varying levels of light output. Accordingly, an  
9 operator may intensify the light output from the lighting system through use of a wireless  
10 handheld transmitter when he wants additional light from a particular umbrella.

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**BRIEF DESCRIPTION OF THE DRAWINGS**

The novel features believed characteristic of the invention are set forth in the appended claims. However, the invention itself, as well as a preferred mode of use and further objectives and advantages thereof, will best be understood by reference to the following detailed description of the preferred embodiment when read in conjunction with the following drawings.

Figure 1 is a fragmentary and sectional view of the preferred embodiment of the lighted umbrella with motorized opening and closing system according to the present invention.

Figures 2A, 2B, and 2C are pictorial, fragmentary, and section views of an alternate embodiment of the present invention which is directed to a lighted umbrella with a stand and a single battery and removable base cover.

Figures 3A, 3B, and 3C are pictorial, fragmentary, and partial section views of another alternate embodiment of the present invention which is directed to a lighted umbrella with a stand, charger, batteries, and removable battery cover.

Figure 4A is a fragmentary and sectional view of another alternate embodiment of the present invention which is directed to a lighted umbrella with recessed lighting.

Figure 4B is a fragmentary and sectional view of another alternate embodiment of the present invention which is directed to a lighted umbrella with integral misting system.

Figure 4C is a fragmentary and sectional view of another alternate embodiment of the present invention which is directed to a lighted umbrella with an integral fan system.

Figure 5A is a block diagram representation of the motorized opening and closing system of the umbrella of Figure 1 and of the other embodiments of the umbrella of the present invention.

Figure 5B is a block diagram representation of an alternate embodiment of the motorized opening and closing system of Figure 5A.



1 **DETAILED DESCRIPTION OF THE INVENTION**

2 Referring to Figure 1 in the drawings, one embodiment of an umbrella apparatus  
3 according to the present invention is illustrated. Umbrella apparatus 11 includes an  
4 umbrella portion 13 and a hollow tubular pole portion 15. Pole portion 15 is coupled to  
5 and supports umbrella portion 13. Umbrella portion 13 is preferably retractable and  
6 may be moved between a raised, or expanded open position, which is shown; and a  
7 lowered, or retracted, closed position in which umbrella portion is collapsed down about  
8 pole portion 15, as is conventional. A flexible canopy 17 is attached to and covers  
9 umbrella portion 15. Canopy 17 is supported by a plurality of rib members 19, 21, 23,  
10 and 25. Rib members 19, 21, 23, and 25 are preferably hingedly coupled to pole  
11 portion 15 at an upper portion of pole portion 15. An integral lighting system 26 is  
12 carried by at least one of rib members 19, 21, 23, or 25. Lighting system 26 provides  
13 high intensity light to umbrella apparatus 11 and the surrounding area. In the  
14 embodiment of Figure 1, lighting system 26 preferably utilizes a cold cathode tube  
15 which will be described in greater detail herein.

16 Umbrella apparatus 11 may include a base member adapted to receive pole  
17 portion 15 and to support umbrella apparatus 11 in a generally upright position.  
18 Although not shown in the embodiment Figure 1, other embodiments of the present  
19 invention depict a variety of conventional and novel base members, any of which may  
20 be utilized with the embodiment of Figure 1. It should be understood that in all of the  
21 embodiments of the present invention discussed herein, umbrella apparatus 11 may be  
22 used with little or no base member whatsoever, provided there is a table or some other  
23 support structure, including the ground, which may be adapted to receive pole portion  
24 15. For example, many patio tables are designed with central apertures to receive,  
25 support, and stabilize relatively large umbrellas. In some cases, the patio tables  
26 eliminate the need for a base member all together.

27 In accordance with the preferred embodiment of the present invention, light  
28 system 26 includes a plurality of light strands 27, 29, 31, and 33 attached to rib  
29 members 19, 21, 23, and 25. Each light strand 27, 29, 31, and 33 includes electrical

1 wiring 39 which conductively connects a plurality of small cold cathode tube light bulbs  
2 together for providing the high intensity light under canopy 17 and in the area  
3 surrounding umbrella apparatus 11. A wiring ring 37 secures and locates electrical  
4 wiring 39 of light strands 27, 29, 31, and 33, so that electrical wiring 39 may be passed  
5 through the hollow interior of pole portion 15 to a power source, as will be described in  
6 detail below.

7 Umbrella apparatus 11 includes an optional opening and closing system 40 that  
8 aids in expanding umbrella portion 13 into the open condition and retracting umbrella  
9 portion 13 into the closed condition. Opening and closing system 40 includes a cable  
10 system 41, a gear and pulley system 43 housed in a crank case 44, and a manual crank  
11 45. Crank case 44 is preferably located on pole portion 15 such that crank case 44 is  
12 accessible when umbrella portion 13 is in the fully retracted position against pole portion  
13 15. Cable system 41 is coupled between rib members 19, 21, 23, and 25 and gear and  
14 pulley system 43, and is preferably disposed within the hollow interior of pole portion 15.  
15 Manual crank 45 is coupled to gear and pulley system 43 so as to allow manual  
16 opening and closing of umbrella portion 13.

17 Opening and closing system 40 may be automated by the inclusion of an electric  
18 screw driver motor 49, or other similar relatively small diameter motor assembly, and  
19 one or more operational switches 47. Motor 49 is preferably disposed within the hollow  
20 interior of pole portion 15 and is coupled to gear and pulley system 43. Operational  
21 switches 47 are preferably carried by crank case 44, and include one or more switches  
22 for controlling the operation of motor 49. With the inclusion of motor 49, a user may  
23 expand and retract umbrella portion 13 simply by pressing the appropriate operational  
24 switch 47. This feature is particularly advantageous when used with large umbrellas  
25 which may be relatively heavy and awkward to operate, or when the user lacks  
26 sufficient strength to expand or retract umbrella portion 13.

27 Umbrella apparatus 11 includes a power system 50 having a power source 55.  
28 In this embodiment, power source 55 is preferably disposed in the hollow interior of pole  
29 portion 15 at a lower extremity and comprises one or more rechargeable batteries 55a.

1 A releasable end cap 57 having integral ground connectors is provided at the lowermost  
2 portion of pole portion 15 to complete the electrical circuit of power system 50 and to  
3 allow access to rechargeable batteries 55a, as rechargeable batteries 55a may have to  
4 be periodically replaced. Power system 50 provides electrical power to lighting system  
5 26 and opening and closing system 40. An external power system charger 51 is  
6 electrically coupled to power system 50 to aid in repeatedly charging rechargeable  
7 batteries 55a. As is shown in Figure 1, an external adapter 60 may be provided.  
8 External adapter 60 includes a relatively small plug 59 that is adapted to be conductively  
9 received by external power system charger 51, an extension cord 61, an electrical  
10 transformer 63, and terminals 65 that allow transformer 63 to be plugged into a  
11 conventional AC wall outlet. This allows power system charger 51 to receive power  
12 directly from a conventional AC wall outlet in order to recharge rechargeable batteries  
13 55a.

14 In accordance with a preferred embodiment of the present invention, an  
15 alternative power system charger 62 may be provided. Alternate power system charger  
16 62 includes at least one solar cell 35 carried by an upper cap portion 64. Solar cells 35  
17 are conductively coupled to power system charger 51 via wires (not shown) that pass  
18 through the hollow interior of pole portion 15, thereby allowing solar cells 35 to provide  
19 an electrical charge to recharge rechargeable batteries 55a, provided sunlight falls upon  
20 solar cells 35. Because solar cells 35 provide continuous recharging throughout the  
21 daylight hours, the amount and frequency of charging power system 50 with external  
22 power system charger 60 may be minimized. It is important to note that locating  
23 alternate power system charger 62 atop umbrella portion 13 is unique and  
24 advantageous, particularly when alternate power system charger 62 includes solar cells  
25 35 or other types of solar energy collectors. Such location limits the visibility of alternate  
26 power system charger 62 and ensures that solar energy collection is maximized.

27 The embodiment depicted in Figure 1 is advantageous over the prior art in that it  
28 provides a number of useful functions. Umbrella apparatus 11 is lighted by lighting  
29 system 26 which does not require continuous access to a conventional AC wall outlet,  
30 while providing high intensity light. This allows umbrella apparatus 11 to be placed in a

1 relatively remote lawn or garden locations that are away from, or substantially removed  
2 from, conventional AC power outlets. During daylight hours, solar cells 35 provide a  
3 continuous trickle charge to recharge rechargeable batteries 55a, thereby reducing the  
4 need for and frequency of use of external power system charger 60. However, when an  
5 electrical charge is needed, external power system charger 60 may be utilized to  
6 directly charge power system charger 51. Of course, a conventional extension cord  
7 may be used, thereby eliminating the need to move umbrella apparatus 11 from its  
8 remote location to a location near an AC power outlet.

9 Referring now to Figures 2A-2C in the drawings, another embodiment of the  
10 present invention is illustrated. In this embodiment, an umbrella apparatus 111 includes  
11 an umbrella portion 113, a pole portion 115, a stand portion 118, and a base portion 120  
12 adapted to house a rechargeable power system 151. Umbrella apparatus 11 includes a  
13 lighting system 126 and may include a motorized opening and closing system 140.  
14 Umbrella portion 113 is preferably retractable and may be moved between a raised, or  
15 expanded open position, which is shown; and a lowered, or retracted, closed position in  
16 which umbrella portion is collapsed down about pole portion 115, as is conventional. A  
17 flexible canopy 117 is attached to and covers umbrella portion 115. Canopy 117 is  
18 supported by a plurality of rib members 119, 121, 123, and 125. Rib members 119,  
19 121, 123, and 125 are preferably hingedly coupled to pole portion 115 at an upper  
20 portion of pole portion 115. An integral lighting system 126 is carried by at least one of  
21 rib members 119, 121, 123, or 125. Lighting system 126 provides high intensity light to  
22 umbrella apparatus 111 and the surrounding area. In the embodiment of Figures 2A-  
23 2C, lighting system 126 preferably utilizes a cold cathode tube which will be described in  
24 greater detail herein.

25 Lighting system 126 includes a plurality of light strands 127, 129, 131, and 133  
26 attached to rib members 119, 121, 123, and 125. Each light strand 127, 129, 131, and  
27 133 includes electrical wiring 139 which conductively couples a plurality of small cold  
28 cathode tube light bulbs together for providing the high intensity light under canopy 117  
29 and in the area surrounding umbrella apparatus 111. A wiring ring 137 secures and  
30 locates electrical wiring 139 of light strands 127, 129, 131, and 133, so that electrical

1 wiring 139 may be passed through the hollow interior of pole portion 115 to a power  
2 source, as will be described in detail below.

3 Umbrella apparatus 111 includes an optional opening and closing system 140  
4 that aids in expanding umbrella portion 113 into the open condition and retracting  
5 umbrella portion 113 into the closed condition. Opening and closing system 140  
6 includes a cable system 141, a gear and pulley system 143 housed in a crank case 144,  
7 and a manual crank 145. Crank case 144 is preferably located on pole portion 115  
8 such that crank case 144 is accessible when umbrella portion 113 is in the fully  
9 retracted position against pole portion 115. Cable system 141 is coupled between rib  
10 members 119, 121, 123, and 125 and gear and pulley system 143, and is preferably  
11 disposed within the hollow interior of pole portion 115. Manual crank 145 is coupled to  
12 gear and pulley system 143 so as to allow manual opening and closing of umbrella  
13 portion 113.

14 Opening and closing system 140 may be automated by the inclusion of an  
15 electric screw driver motor 149, or other similar relatively small diameter motor  
16 assembly, and one or more operational switches 147. Motor 149 is preferably disposed  
17 within the hollow interior of pole portion 115 and is coupled to gear and pulley system  
18 143. Operational switches 147 are preferably carried by crank case 144, and include  
19 one or more switches for controlling the operation of motor 149. With the inclusion of  
20 motor 149, a user may expand and retract umbrella portion 113 simply by pressing the  
21 appropriate operational switch 147. This feature is particularly advantageous when  
22 used with large umbrellas which may be relatively heavy and awkward to operate, or  
23 when the user lacks sufficient strength to expand or retract umbrella portion 113.

24 Umbrella apparatus 111 includes a power system 150 having a power source  
25 155. In this embodiment, power source 155 is preferably adapted to be conductively  
26 coupled to base portion 120 and comprises a rechargeable battery pack 155a,  
27 preferably an 18-Volt rechargeable battery pack. Battery pack 155a is preferably the  
28 type of rechargeable battery that is utilized with most modern cordless power tools,  
29 such as drills, saws, and sanders. Battery pack 155a is adapted to be repeatedly



1 recharged by plugging battery pack 155a into a conventional charger (not shown) that is  
2 plugged into a conventional AC power outlet. Power system 150 provides electrical  
3 power to lighting system 126 and opening and closing system 140.

4 In accordance with a preferred embodiment of the present invention, an  
5 alternative power system charger 162 may be provided. Alternate power system  
6 charger 162 includes at least one solar cell 135 carried by an upper cap portion 164.  
7 Solar cells 135 are conductively coupled to power system 150 via wires (not shown) that  
8 pass through the hollow interior of pole portion 115, thereby allowing solar cells 135 to  
9 provide an electrical charge to recharge rechargeable battery pack 155a, provided  
10 sunlight falls upon solar cells 135. Because solar cells 135 provide continuous  
11 recharging throughout the daylight hours, the frequency with which battery pack 155a  
12 must be replaced or recharged may be minimized. It is important to note that locating  
13 alternate power system charger 162 atop umbrella portion 113 is unique and  
14 advantageous, particularly when alternate power system charger 162 includes solar  
15 cells 135 or other types of solar energy collectors. Such location limits the visibility of  
16 alternate power system charger 162 and ensures that solar energy collection is  
17 maximized.

18 Stand portion 118 includes an upright shaft portion 170 having a central aperture  
19 172 that is adapted to receive the pole portion 115 of umbrella apparatus 111. A  
20 plurality of screw clamps 174 and 176 are provided to secure pole portion 115 within  
21 shaft portion 170. A bottom portion 146 is provided to stabilize umbrella apparatus 111  
22 while umbrella apparatus 111 is installed within stand portion 118.

23 Base portion 120 includes a removable cylindrical sleeve 156, a removable cover  
24 160, and a receiver 168. Sleeve 156 is configured to slip over the exterior of shaft  
25 portion 170, and includes a longitudinal slot 158 that allows access to screw clamps 174  
26 and 176 when sleeve 156 is placed over shaft portion 170. Slot 158 also allows access  
27 to a connector 166 disposed in the lower portion of pole portion 115 when sleeve 156 is  
28 placed over shaft portion 170. Connector 166 is conductively coupled to the wires from  
29 alternate power system charger 162 and solar cells 135. Cover 160 is preferably

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1 concave in shape, thereby defining an interior space which may be used to house the  
2 electronics (not shown) of power system 150. Cover 160 may include one or more  
3 seams 162 that allow access to the interior space defined by cover 160. Receiver 168  
4 releasably receives battery pack 155a. A wire 152 and plug 154 conductively couple  
5 battery pack 155a to connector 166, thereby providing an electrical circuit between  
6 rechargeable battery pack 155a and light strands 119, 121, 123, and 125 of lighting  
7 system 126.

8 The embodiment depicted in Figures 2A-2C is advantageous over the prior art in  
9 that it provides a number of useful functions. Umbrella apparatus 111 is lighted by  
10 lighting system 126 which does not require continuous access to a conventional AC wall  
11 outlet, while providing high intensity light. This allows umbrella apparatus 111 to be  
12 placed in a relatively remote lawn or garden locations that are away from, or  
13 substantially removed from, conventional AC power outlets. During daylight hours,  
14 solar cells 135 provide a continuous trickle charge to recharge rechargeable battery  
15 pack 155a, thereby reducing the frequency with which battery pack 155a must be  
16 replaced or recharged. Additionally, this embodiment is advantageous over the prior art  
17 in that conventional rechargeable battery packs, which are commonly used with  
18 cordless power tools, may be utilized. If battery pack 155a is insufficiently charged  
19 illuminate light strands 119, 121, 123, and 125 of light system 126, the user may simply  
20 replace battery pack 155a with another fully charged battery pack 155a. In this manner,  
21 lighting system 126 of umbrella apparatus 111 may be energized conveniently, even  
22 though umbrella apparatus 111 may be located extremely remotely from an AC power  
23 outlet, such as in a garden patio, or on a boat dock. In this embodiment, there is no  
24 need to use extension cords to charge an alternate power system charger.

25 Referring now to Figures 3A-3C in the drawings, another embodiment of the  
26 present invention is illustrated. In this embodiment, an umbrella apparatus 211 includes  
27 an umbrella portion 213, a pole portion 215, a stand portion 218, and a base portion 220  
28 adapted to house a rechargeable power system 251. Umbrella apparatus 211 includes  
29 a lighting system 226 and may include a motorized opening and closing system 240.  
30 Umbrella portion 213 is preferably retractable and may be moved between a raised, or



1           Opening and closing system 240 may be automated by the inclusion of an  
2 electric screw driver motor 249, or other similar relatively small diameter motor  
3 assembly, and one or more operational switches 247. Motor 249 is preferably disposed  
4 within the hollow interior of pole portion 215 and is coupled to gear and pulley system  
5 243. Operational switches 247 are preferably carried by crank case 244, and include  
6 one or more switches for controlling the operation of motor 249. With the inclusion of  
7 motor 249, a user may expand and retract umbrella portion 213 simply by pressing the  
8 appropriate operational switch 247. This feature is particularly advantageous when  
9 used with large umbrellas which may be relatively heavy and awkward to operate, or  
10 when the user lacks sufficient strength to expand or retract umbrella portion 213.

11           Umbrella apparatus 211 includes a power system 250 having a rechargeable  
12 power source 255. In this embodiment, power source 255 is preferably adapted to be  
13 conductively coupled to and housed within base portion 220 and comprises a bundle of  
14 rechargeable batteries 255a. Power system 250 provides electrical power to lighting  
15 system 226 and opening and closing system 240. An external power system charger  
16 and transformer 251 is electrically coupled to power system 250 to aid in repeatedly  
17 charging rechargeable batteries 255a. An extension cord 261 having terminals 265  
18 allow external power system charger and transformer 251 to be plugged into a  
19 conventional AC wall outlet. This allows external power system charger and  
20 transformer 251 to receive power directly from a conventional AC wall outlet in order to  
21 recharge rechargeable batteries 255a.

22           In accordance with a preferred embodiment of the present invention, an  
23 alternative power system charger 262 may be provided. Alternate power system  
24 charger 262 includes at least one solar cell 235 carried by an upper cap portion 264.  
25 Solar cells 235 are conductively coupled to power system 250 via wires (not shown) that  
26 pass through the hollow interior of pole portion 215, thereby allowing solar cells 235 to  
27 provide an electrical charge to recharge rechargeable batteries 255a, provided sunlight  
28 falls upon solar cells 235. Because solar cells 235 provide continuous recharging  
29 throughout the daylight hours, the frequency with which batteries 255a must be  
30 replaced or recharged may be minimized. It is important to note that locating alternate

1 power system charger 262 atop umbrella portion 213 is unique and advantageous,  
2 particularly when alternate power system charger 262 includes solar cells 235 or other  
3 types of solar energy collectors. Such location limits the visibility of alternate power  
4 system charger 262 and ensures that solar energy collection is maximized.

5 Stand portion 218 includes an upright shaft portion 270 having a central aperture  
6 272 that is adapted to receive pole portion 215 of umbrella apparatus 211. A plurality of  
7 screw clamps 274 and 276 are provided to secure pole portion 215 within shaft portion  
8 270. A bottom portion 246 is provided to stabilize umbrella apparatus 211 while  
9 umbrella apparatus 211 is installed within stand portion 218.

10 Base portion 220 includes a removable cylindrical sleeve 256, a removable cover  
11 260, and recessed portions 280 and 282. Sleeve 256 is configured to slip over the  
12 exterior of shaft portion 270, and includes a longitudinal slot 258 that allows access to  
13 screw clamps 274 and 276 when sleeve 256 is placed over shaft portion 270. Slot 258  
14 also allows access to a connector 266 disposed in the lower portion of pole portion 215  
15 when sleeve 256 is placed over shaft portion 270. Connector 266 is conductively  
16 coupled to the wires from alternate power system charger 262 and solar cells 235.  
17 Cover 260 is preferably concave in shape, thereby defining an interior space which may  
18 be used to house the electronics (not shown) of power system 250. Cover 260 may  
19 include one or more seams 262 that allow access to the interior space defined by cover  
20 260. Recessed portion 280 releasably receives batteries 255a, and recessed portion  
21 282 releasably receives external power system charger 251. A wire 252 and plug 254  
22 conductively couple batteries 255a to connector 266, thereby providing an electrical  
23 circuit between rechargeable batteries 255a and light strands 219, 221, 223, and 225 of  
24 lighting system 226.

25 The embodiment depicted in Figures 3A-3C is advantageous over the prior art in  
26 that it provides a number of useful functions. Umbrella apparatus 211 is lighted by  
27 lighting system 226 which does not require continuous access to a conventional AC wall  
28 outlet, while providing high intensity light. This allows umbrella apparatus 211 to be  
29 placed in a relatively remote lawn or garden locations that are away from, or

1 substantially removed from, conventional AC power outlets. During daylight hours,  
2 solar cells 235 provide a continuous trickle charge to recharge rechargeable batteries  
3 255a, thereby reducing the frequency with which batteries 255a must be replaced or  
4 recharged. However, when an electrical charge is needed, external power system  
5 charger 251 may be utilized to directly charge batteries 255a. Of course, a conventional  
6 extension cord may be used, thereby eliminating the need to move umbrella apparatus  
7 211 from its remote location to a location near an AC power outlet.

8 Referring now to Figure 4A in the drawings, the preferred embodiment of lighting  
9 systems 26, 126, and 226 of the present invention is illustrated. In this embodiment, a  
10 plurality of lighting elements 307, preferably cold cathode tube bulbs, are recessed into  
11 a rib member 301. Rib member 301 is indicative of rib members 19, 21, 23, 25, 119,  
12 121, 123, 125, 219, 221, 223, and 225. As is shown, a cavity 303 is formed within rib  
13 301. Cavity 303 is adapted to receive and hold light bulb 307. A translucent material  
14 305 extends along the entire length of the cavity 303 to protect bulbs 307 from damage  
15 and undesirable exposure to weather and other conditions. Translucent material 305  
16 may have a smooth surface or be textured to accentuate or enhance the light from  
17 bulbs 307. Although only a single cold cathode tube bulb 307 is illustrated, it should be  
18 understood that there may be many bulbs 307 spaced along the length of rib member  
19 301 to illuminate the area under umbrella apparatus 11, 111, or 211. Rib member 301  
20 includes a wiring channel 309 configured to receive a wire 311 that conductively  
21 connects all of the bulbs 307 installed in rib member 301, thereby forming an electrical  
22 circuit between bulbs 307 and the rechargeable power source, such as power sources  
23 50, 150, and 250. In this manner, recessed lighting, which is carried entirely within rib  
24 member 301 and is not otherwise exposed to the elements, is achieved.

25 Referring now to Figure 4B in the drawings, an alternate embodiment of lighting  
26 systems 26, 126, and 226 of the present invention is illustrated. This embodiment is  
27 similar to the embodiment of Figure 4A, with the exception that an integral cooling  
28 system 410 has been added. In this embodiment, a plurality of lighting elements 307,  
29 preferably cold cathode tube bulbs, are recessed into a rib member 301. Rib member  
30 301 is indicative of rib members 19, 21, 23, 25, 119, 121, 123, 125, 219, 221, 223, and

1 225. Cooling system 410 comprises a misting means that provides a light mist to cool  
2 the area under umbrella apparatus 11, 111, or 211. A cavity 403 is formed within rib  
3 member 401. Cavity 403 is adapted to receive and hold light bulb 407. A translucent  
4 material 405 extends along the entire length of the cavity 403 to protect bulbs 407 from  
5 damage and undesirable exposure to weather and other conditions. Translucent  
6 material 405 may have a smooth surface or be textured to accentuate or enhance the  
7 light from bulbs 407. Although only a single cold cathode tube bulb 407 is illustrated, it  
8 should be understood that there may be many bulbs 407 spaced along the length of rib  
9 member 401 to illuminate the area under umbrella apparatus 11, 111, or 211. Rib  
10 member 401 includes a wiring channel 409 configured to receive a wire 411 that  
11 conductively connects all of the bulbs 407 installed in rib member 401, thereby forming  
12 an electrical circuit between bulbs 407 and the rechargeable power source, such as  
13 power sources 50, 150, and 250. In this manner, recessed lighting, which is carried  
14 entirely within rib member 401 and is not otherwise exposed to the elements, is  
15 achieved.

16 A fluid supply channel 421 is provided in order to receive a fluid tight hose which  
17 supplies water to a plurality of misting nozzles 425 which generate mist 427 and 480. A  
18 fluid discharge channel 423 is provided to carry a fluid tight hose which carries water  
19 from the hose in fluid supply channel 421 to misting nozzles 425. In this embodiment,  
20 umbrella apparatus should include a small reservoir (not shown) of water or other water  
21 source, such as an inlet hose, and an electric pump to pressurize and pump the water  
22 through cooling system 410. In this manner, umbrella apparatus 11, 111, or 211  
23 provides both light and a cooling mist to those in close proximity.

24 Referring now to Figure 4C in the drawings, another embodiment of lighting  
25 systems 26, 126, and 226 of the present invention is illustrated. This embodiment is  
26 similar to the embodiment of Figure 4A, with the exception that a different integral  
27 cooling system 510 has been added. In this embodiment, a plurality of lighting  
28 elements 507, preferably cold cathode tube bulbs, are recessed into a rib member 501.  
29 Rib member 501 is indicative of rib members 19, 21, 23, 25, 119, 121, 123, 125, 219,  
30 221, 223, and 225. Cooling system 510 comprises a fanning means that provides a

1 cool breeze under umbrella apparatus 11, 111, or 211. A cavity 503 is formed within rib  
2 member 501. Cavity 503 is adapted to receive and hold light bulb 507. A translucent  
3 material 505 extends along the entire length of the cavity 503 to protect bulbs 507 from  
4 damage and undesirable exposure to weather and other conditions. Translucent  
5 material 505 may have a smooth surface or be textured to accentuate or enhance the  
6 light from bulbs 507. Although only a single cold cathode tube bulb 507 is illustrated, it  
7 should be understood that there may be many bulbs 507 spaced along the length of rib  
8 member 501 to illuminate the area under umbrella apparatus 11, 111, or 211. Rib  
9 member 501 includes a wiring channel 509 configured to receive a wire 511 that  
10 conductively connects all of the bulbs 507 installed in rib member 501, thereby forming  
11 an electrical circuit between bulbs 507 and the rechargeable power source, such as  
12 power sources 50, 150, and 250. In this manner, recessed lighting, which is carried  
13 entirely within rib member 501 and is not otherwise exposed to the elements, is  
14 achieved.

15 A wiring conduit 520 is provided which routes electrical wiring from wire 511 to an  
16 electric motor 524 carried in a recessed cavity 522. Fanning means 528 and 580, such  
17 as fan blades, are carried by rotating shafts 530 which are connected to motors 524.  
18 When energized, motors 524 rotate fan blades 528 and 580, thereby providing a cooling  
19 breeze under umbrella apparatus 11, 111, and 211. A plurality of fan blade sets 528  
20 and 580 may be located at predetermined locations along the length of rib member 501.

21 Referring now to Figure 5A in the drawings, a block diagram representation of  
22 the preferred embodiment of opening and closing systems 40, 140, and 240 is  
23 illustrated. As is shown, a pulley system 600 is coupled through gears 602 to an electric  
24 motor 604. A switch 606 is electrically connected between a power supply 608 and  
25 electric motor 604. Power supply 608 is indicative of rechargeable power systems 50,  
26 150, and 250. External power system charger 610 and solar charger 612 are coupled  
27 to power supply 608 to recharge the rechargeable battery elements. External power  
28 system charger 610 is indicative of external power system chargers 51 and 251. Solar  
29 charger 612 is indicative of alternate power system chargers 62, 162, and 262.  
30 Mechanical actuation of switch 606 allows current to flow from power supply 608 to



1 electric motor 604. Motor 604 works through gears 602 to operate pulley 600, thereby  
2 opening and closing canopy 17, 117, or 217 of umbrella apparatus 11, 111, or 211,  
3 respectively.

4 Referring now to Figure 5B in the drawings, another embodiment of the opening  
5 and closing systems 40, 140, and 240 of the present invention is illustrated. In this  
6 embodiment, a wireless transmitter 708 is utilized to transmit encoded signals and  
7 remotely communicate with a wireless receiver 706 that is carried by umbrella  
8 apparatus 11, 111, or 211, preferably near housings 44, 144, and 244. A decoder 704  
9 is provided to decode the encoded signals. As is conventional with such receivers and  
10 transmitters, transmitter 708 and receiver 706 may be adapted to be coded on a  
11 particular frequency or coding scheme which enable a dedicated transmitter 708 to  
12 actuate a particular receiver 706. A decoder 704 coupled to an electrical switch 702  
13 serves to allow for such identification. Switch 702 controls the application of electrical  
14 energy from a power supply 710 to an electric motor 700. Power supply 710 is indicative  
15 of rechargeable power systems 50, 150, and 250. Motor 700 is indicative of motors 49,  
16 149, and 249. In this manner, a motorized retraction system may be actuated remotely  
17 utilizing wireless transmitter 708.

18 Referring now to Figures 6-9 in the drawings, the preferred embodiments of the  
19 umbrella apparatus of the present invention are illustrated. In these embodiments, the  
20 rechargeable power source and solar recharging system are mounted atop the pole  
21 portion of the umbrella apparatus above the canopy. One concept which runs  
22 throughout the embodiments depicted in Figures 6-9 is the utilization of a "power unit."  
23 This concept involves the placement of a unitary structure at a defined location relative  
24 to the umbrella. For example, in the embodiments of Figures 6-9, the power unit is  
25 shown at a top location directly above the umbrella apparatus, and secured to the pole  
26 portion with a threaded coupling. Figure 6 depicts a top-mounted power unit and a cold  
27 cathode tube lighting system. Figure 7 depicts a top-mounted power unit with a fanning  
28 means cooling system. Figure 8 depicts a top-mounted power unit with mist producing  
29 cooling system. Figure 9 depicts a top-mounted power unit with an automated opening  
30 and closing system.

1           Although Figures 6-9 depict power units with a single electrical system, it should  
2 be understood that in alternative embodiments, one could mix and match these  
3 electrical subassemblies such that a single power unit provides electrical power to two  
4 or more subassemblies. For example, an umbrella apparatus may include a lighting  
5 system and either one or both of the cooling systems described above. Alternatively, an  
6 umbrella apparatus may include a lighting system, a cooling system, and an automated  
7 opening and closing system as described herein. In this manner, the umbrella  
8 apparatus of the present invention is modular such that the different subsystems can be  
9 easily mixed and matched.

10           This modularity allows one to manufacture and sell aftermarket kits which can be  
11 installed and interchanged by the umbrella owners. Such kits may include a power unit  
12 and one or more of the subsystems, such as a lighting system and/or a cooling system  
13 and/or an automated opening and closing system. Because the power unit is relatively  
14 self-contained, little interaction is required to attach the power unit to an umbrella  
15 apparatus. Alternatively, this modularity in design facilitates the mass manufacture of  
16 umbrellas, allowing the electrical system to be manufactured by one factory, and the  
17 umbrella systems, which do not include electrical systems, to be manufactured by a  
18 different factory. The parts can then be brought together in an assembly area and  
19 assembled together.

20           Referring now specifically to Figure 6, an umbrella apparatus 701 is illustrated.  
21 As is shown, a power unit 725 is provided for connection to the uppermost portion of  
22 umbrella apparatus 701. In this embodiment, a cold cathode tube light subassembly  
23 721 is provided for connection at a different location to umbrella apparatus 701. Power  
24 unit 725 includes a solar collector 727 at its uppermost portion. Solar collector 727 is  
25 preferably carried by a top portion 703 of power unit 725. A bottom portion 705 of  
26 power unit 725 defines an interior battery compartment 707. Additionally, power unit  
27 725 carries a coupling mechanism 729 to allow coupling between power unit 725 and a  
28 pole portion 719 of umbrella apparatus 701, pole portion 719 being adapted at an upper  
29 end 711, preferably with threads 713, to releasably receive power unit 725. A top cap  
30 715 hingedly connects pole portion 719 to a canopy 717. Cold cathode tube light

1 subassembly 721 is coupled at a desired location underneath canopy 717 to provide  
2 high intensity light in the area surrounding umbrella apparatus 701. Cold cathode tube  
3 light subassembly 721 is conductively coupled to power unit 725 by wiring 709 that  
4 passes through the hollow interior of pole portion 719. Such light allows users to read,  
5 play games, or perform other leisure activities that require a relatively high intensity  
6 light. The electrical components of umbrella apparatus 701 are entirely independent of  
7 any household electrical system. The power source, such as power sources 50, 150,  
8 and 250, carried by power unit 725 is utilized to energize cold cathode tube light  
9 subassembly 721. During daylight hours, solar energy is collected by solar panel 727  
10 and is converted and utilized to recharge the rechargeable power source which is  
11 maintained within battery compartment 707.

12 Cold cathode tube light subassembly 721 is described below in more detail  
13 below. As will be appreciated by those skilled in the art, other low power lighting  
14 systems may be used instead of cold cathode tube light sub assembly 721. For  
15 example, an LED or fluorescent lighting subassembly may be utilized instead. LED and  
16 fluorescent systems designed for use with solar and low voltage lighting are known in  
17 the art. Such alternative lighting sources may be easily used with the present system in  
18 manners which are recognized by those skilled in the art. Implementation of LED,  
19 fluorescent, or other alternate light sources instead of cold cathode tube light  
20 subassembly 721 is a straightforward and need not be further described in detail.

21 Referring now specifically to Figure 7 in the drawings, an umbrella apparatus 801  
22 is illustrated. As is shown, a power unit 825 is provided for connection to the uppermost  
23 portion of umbrella apparatus 801. In this embodiment, a cooling system 821  
24 comprising a fanning means 831 is provided for connection at a different location to  
25 umbrella apparatus 801. Power unit 825 includes a solar collector 827 at its uppermost  
26 portion. Solar collector 827 is preferably carried by a top portion 803 of power unit 825.  
27 A bottom portion 805 of power unit 825 defines an interior battery compartment 807.  
28 Additionally, power unit 825 carries a coupling mechanism 829 to allow coupling  
29 between power unit 825 and a pole portion 819 of umbrella apparatus 801, pole portion  
30 819 being adapted at an upper end 811, preferably with threads 813, to releasably

1 receive power unit 825. A top cap 815 hingedly connects pole portion 819 to a canopy  
2 817. Cooling system 821 is coupled at a desired location underneath canopy 817 to  
3 provide a cooling breeze in the area surrounding umbrella apparatus 801. Cooling  
4 system 821 is conductively coupled to power unit 825 by wiring 809 that passes through  
5 the hollow interior of pole portion 819. The electrical components of umbrella apparatus  
6 801 are entirely independent of any household electrical system. The power source,  
7 such as power sources 50, 150, and 250, carried by power unit 825 is utilized to  
8 energize cooling system 821. During daylight hours, solar energy is collected by solar  
9 panel 827 and is converted and utilized to recharge the rechargeable power source  
10 which is maintained within battery compartment 807.

11 Referring now specifically to Figure 8 in the drawings, an umbrella apparatus 901  
12 is illustrated. As is shown, a power unit 955 is provided for connection to the uppermost  
13 portion of umbrella apparatus 901. In this embodiment, a cooling system 921  
14 comprising a misting system 931 is provided for connection at a different location to  
15 umbrella apparatus 901. Power unit 955 includes a solar collector 957 at its uppermost  
16 portion. Solar collector 957 is preferably carried by a top portion 903 of power unit 955.  
17 A bottom portion 905 of power unit 955 defines an interior battery compartment 907.  
18 Additionally, power unit 955 carries a coupling mechanism 959 to allow coupling  
19 between power unit 955 and a pole portion 919 of umbrella apparatus 901, pole portion  
20 919 being adapted at an upper end 911, preferably with threads 913, to releasably  
21 receive power unit 955. A top cap 915 hingedly connects pole portion 919 to a canopy  
22 917. The electrical components of umbrella apparatus 901 are entirely independent of  
23 any household electrical system. The power source, such as power sources 50, 150,  
24 and 250, carried by power unit 955 is utilized to energize cooling system 921. During  
25 daylight hours, solar energy is collected by solar panel 957 and is converted and utilized  
26 to recharge the rechargeable power source which is maintained within battery  
27 compartment 907.

28 Cooling system 921 is coupled at a desired location underneath canopy 917 to  
29 provide a cooling mist in the area surrounding umbrella apparatus 901. Cooling system  
30 921 is conductively coupled to power unit 955 by wiring 909 that passes through the

1 hollow interior of pole portion 919. Cooling system 921 is a misting system comprising  
2 a reservoir 925, or other water source, a pump 927, water feed lines 929, and mist  
3 nozzles 923. Pump 927 pressurizes and pumps the water from reservoir 925 through  
4 water feed lines 929 and out of mist nozzles 923, which are located at selected spaced  
5 intervals under canopy 917, at a selected flow rate. Reservoir 925 may be a  
6 conventional ice cooler, such that the mist is chilled water.

7 Referring now specifically to Figure 9 in the drawings, an umbrella apparatus  
8 1001 is illustrated. As is shown, a power unit 1055 is utilized to provide electrical power  
9 to an automated opening and closing system 1050. Power unit 1055 includes a solar  
10 collector 1027 at its uppermost portion. Solar collector 1027 is preferably carried by a  
11 top portion 1003 of power unit 1055. A bottom portion 1005 of power unit 1055 defines  
12 an interior battery compartment 1007. Additionally, power unit 1055 carries a coupling  
13 mechanism 1029 to allow coupling between power unit 1055 and a pole portion 1019 of  
14 umbrella apparatus 1001, pole portion 1019 being adapted at an upper end 1011,  
15 preferably with threads 1013, to releasably receive power unit 1055. A top cap 1015  
16 hingedly connects pole portion 1019 to a canopy 1017. The electrical components of  
17 umbrella apparatus 1001 are entirely independent of any household electrical system.  
18 Automated opening and closing system 1050 is conductively coupled to power unit 1055  
19 by wiring 1009 that passes through the hollow interior of pole portion 1019. The power  
20 source, such as power sources 50, 150, and 250, carried by power unit 1055 is utilized  
21 to energize automated opening and closing system 1050. During daylight hours, solar  
22 energy is collected by solar panel 1027 and is converted and utilized to recharge the  
23 rechargeable power source which is maintained within battery compartment 1007.

24 Automated opening and closing system 1050 is carried at the uppermost portion  
25 of pole portion 1019. Opening and closing system 1050 includes a motor 1021, a  
26 transmission 1023, a line winding shaft 1025, a pulley system 1031, and a cable system  
27 1033. These components cooperate to open and close the umbrella in response to the  
28 receipt of a command signal. The command signal may be supplied by the actuation of  
29 a switch (see Figures 1-3) carried on pole portion 1019, or it may be a wireless signal  
30 received from a paired transmitter receiver system (see Figure 5B).

1 Referring now to Figure 10 in the drawings, a schematic of the cold cathode tube  
2 lighting system of the present invention is illustrated. The invention is to utilize in  
3 combination a cold cathode lamp, a power inverter which supplies alternating current to the  
4 cold cathode lamp, a rechargeable DC battery pack, and a solar collector. This is depicted  
5 in simplified form in Figure 10. This may be utilized in any outdoor application in which  
6 there is no easy or convenient access to household power. The system is entirely self-  
7 contained and does not require any household power for operation, or charging. As is  
8 shown, the cold cathode tube lighting system 3000 includes a cold cathode lamp 3001 that  
9 is supplied with AC power from a power inverter 3007. A DC battery pack 3003 includes  
10 rechargeable batteries that supply DC current to power inverter 3007. A solar collector  
11 3005 is provided to recharge the batteries contained within DC power pack 3003.

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A cold cathode tube is a lamp that produces light by the passage of an electric  
current through a vapor or gas maintained within a tube. A cold cathode tube does not  
require any heating above ambient temperature to produce light. The tube is phosphor  
coated on its inner surface, and thus may emit various colored light. In most cases, cold  
cathode tube lamps are low-pressure mercury vapor lamps. Such lamps use a 253.7  
nanometer ultraviolet emission from mercury vapor excited by an electrical discharge  
through the lamp to charge the phosphors maintained on the wall of the lamp.

The optimum operating temperature for cold cathode tube is approximately 40  
degrees Celsius, although Applicant believes that these lamps can be produced in a  
manner to reliably provide outdoor lighting in temperatures as cold as 15 degrees  
Fahrenheit. While the cold cathode tube does not require heating, the output of the lamp  
does vary based upon the ambient temperature. At room temperature, the initial output of  
a lamp is only about seventy percent of its steady state value at 40 degrees Celsius. In  
contrast, its output is only 25 percent when the lamp is started at zero degrees Celsius.  
Cold starts do require additional voltage from the power source to ensure reliable  
operation. However, the number of lamp "starts" has no adverse effect on the lamp. This  
is not true for fluorescent lamps, which degrade over time due to the number of "starts."  
Cold cathode tubes may be utilized to supply a white light output.

1 In the preferred embodiment, a cold cathode tube manufactured by Nanjing Lampus  
2 Electronics Company, Ltd. is utilized. Specifically, a lamp type CFL-20 is utilized. This has  
3 an inner diameter of 1.5 millimeters. The tube length is variable, and may be anywhere in  
4 the range of 50 millimeters to 30 millimeters in overall length. The tube is adapted to  
5 operate on four milliamps of tube current. The tube voltage is in the range of 200 to 750  
6 Volts. The average brightness of this particular tube is 40,000 cd/m<sup>2</sup>.

7 Another advantage of cold cathode tubes is that the tubes can be very thin in  
8 diameter. For example, in the preferred implementation, the cold cathode tube may be one  
9 or two millimeters in diameter. A cold cathode tube can be bent into any shape and can be  
10 formed in very long lengths, such as several feet long. Thus, cold cathode tubes provide  
11 greater light output per foot versus conventional lighting.

12 Another significant advantage of cold cathode tubes is that they have relatively long  
13 lamp life. It is not unusual to have lamp lives which are thirty to forty thousand hours of  
14 use. In other words, these cold cathode tubes have, for all practical purposes, an infinite  
15 life span.

16 They are low power devices. They do not generate a lot of heat. They provide high  
17 lumen output. For these reasons, fewer batteries are needed to drive the cold cathode ray  
18 tube, and smaller solar cell panels may be utilized to recharge the batteries. In other  
19 words, relatively small form factors can be achieved because the solar cells, the batteries,  
20 and the bulbs can be relatively small in size.

21 The present invention can be implemented on a small, medium, or large scale so  
22 the solar cell panels and batteries may be moved up in size to either provide greater light  
23 output or to provide for a longer useful life.

24 Additionally, the present invention may be considered to satisfy three separate and  
25 distinct outdoor lighting applications, all of which may be incorporated into the umbrella  
26 apparatus of the present invention.

27 The first application is that of a "special purpose light," or "task light," such as for  
28 security applications. These special purpose lights would provide very light output, for a

1 relatively short duration. One example would be the utilization of the cold cathode ray tube  
2 to provide extremely high light output for a very small area for a very short time, all in  
3 response to detection of motion in a particular area. For example, a system can be  
4 configured to detect motion in a doorway, motion in a yard, motion in a driveway, or the  
5 like. The brightness can be provided which can be far in excess of 40,000 cd/m<sup>2</sup>. For  
6 example, 100,000 to 200,000 cd/ m<sup>2</sup> may be provided for a very small area for a very short  
7 duration. For example, the duration may be a few minutes to ten minutes.

8 The second application requires a medium amount of light output, but requires  
9 longer periods of operation or wider areas of coverage. For example, the light assembly  
10 provided with the umbrella provides a relatively high light output, such as in the range of  
11 20,000 to 100,000 cd/m<sup>2</sup>, in order to allow one to read, play games, operate a computer, or  
12 do needlework under the umbrella. Preferably, the battery pack and associated solar panel  
13 is sufficient to allow the system to operate continuously for a time interval in the range of 8-  
14 12 hours. Additionally, and preferably, the solar panel should be of the size and output  
15 which is sufficient to fully recharge the battery pack during the daylight hours.

16 A third application requires a lower level of light intensity. A good example would be  
17 lawn, patio, walkway, or landscape lighting. One does not ordinarily expect to be able to  
18 read or do intricate work under this type of lighting. In contrast, all that is expected is that a  
19 reasonable amount of light be provided to allow one to walk safely through an area. This  
20 type of task may require brightness in the range of 6,000 cd/m<sup>2</sup> to 60,000 cd/m<sup>2</sup>.

21 Referring now to Figure 11 in the drawings, a block diagram representation of the  
22 application of the present invention to a lawn lighting scenario is illustrated. In this  
23 scenario, a plurality of solar panels 4001, 4003, 4005, and 4007 are connected together in  
24 series. Preferably, solar panels 4001, 4003, 4005, and 4007 are manufactured by  
25 Siemens and comprise mono-crystal solar panels, each providing 1.5 Volts. The total  
26 current for the array of solar panels is about 80 milliamps. The current from solar panels  
27 4001, 4003, 4005, and 4007 is passed through a diode 4009 and then to a battery pack  
28 4011. Battery pack 4011 includes a plurality of batteries 4013, 4015, and 4017, for  
29 example three AA batteries. In alternative embodiments, as few as two batteries may be



1 used. As is shown, each battery is a 1.2 Volt Nickel Cadmium battery. They collectively  
2 provide 700 milliamp hours of power.

3 The output of DC battery pack 4011 is provided as an input to an inverter 4019.  
4 Inverter 4019 receives 4.8 Volts DC in and produces as an output of 800 Volts rms AC at  
5 40 Hertz. The total current of the output is 4-6 milliamps.

6 This is provided to the cathode of a cold cathode ray tube lamp 4021. The current  
7 passes through the vapor maintained within cold cathode ray tube lamp 4021 and causes  
8 electrons to be stripped from the gas. These electrons collide with the phosphorus coating  
9 on the interior surface of cold cathode ray tube lamp 4021, thereby emitting light.

10 Although the invention has been described with reference to a particular  
11 embodiment, this description is not meant to be construed in a limiting sense. Various  
12 modifications of the disclosed embodiments as well as alternative embodiments of the  
13 invention will become apparent to persons skilled in the art upon reference to the  
14 description of the invention. It is therefore contemplated that the appended claims will  
15 cover any such modifications or embodiments that fall within the scope of the invention.

What is claimed is:

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- 1 1. An umbrella apparatus comprising:  
2 a base support portion;  
3 a pole portion coupled to the base support portion;  
4 a canopy portion hingedly coupled to the pole portion;  
5 a rechargeable electrical power system for providing electrical power to the  
6 umbrella apparatus; and  
7 a solar energy system carried by the pole portion above the canopy portion, the  
8 solar energy system being adapted to collect solar energy and convert the solar energy  
9 into electrical energy, the solar energy system being conductively coupled to the  
10 rechargeable electrical power system, such that the solar energy collected and  
11 converted into electrical energy recharges the rechargeable electrical power system.
  - 1 2. The umbrella apparatus according to claim 1, wherein the rechargeable electrical  
2 power system and the solar energy system are both carried by a housing mounted on  
3 the pole portion above the canopy portion.
  - 1 3. The umbrella apparatus according to claim 1, wherein the rechargeable electrical  
2 power system is carried by the base support portion and the solar energy system is  
3 carried by a housing mounted on the pole portion above the canopy portion.
  - 1 4. The umbrella apparatus according to claim 1, wherein the rechargeable electrical  
2 power system is powered by at least one rechargeable battery.

- Sub
- 1 5. The umbrella apparatus according to claim 1, further comprising:  
2 an electrical charging system for recharging the rechargeable electrical power  
3 system, the electrical charging system being adapted to receive power from an AC  
power outlet.
  - 1 6. The umbrella apparatus according to claim 1, further comprising:  
2 a lighting system carried by the canopy portion, the lighting system being

3 conductively coupled to and powered by the rechargeable electrical power system.

1 7. The umbrella apparatus according to claim 6, wherein the lighting system  
2 comprises:

3 a plurality of rib members coupled to the canopy portion; and

4 a plurality of cold cathode tube elements carried by the rib members, each cold  
5 cathode tube element being conductively coupled to and powered by the rechargeable  
6 electrical power source.

8. The umbrella apparatus according to claim 6, wherein the lighting system  
2 comprises:

3 a plurality of rib members coupled to the canopy portion; and

4 a plurality of light emitting diode elements carried by the rib members, each light  
5 emitting diode element being conductively coupled to and powered by the rechargeable  
6 electrical power source.

9. The umbrella apparatus according to claim 6, wherein the lighting system  
2 comprises:

3 a plurality of rib members coupled to the canopy portion; and

4 a plurality of fluorescent light elements carried by the rib members, each  
5 fluorescent light element being conductively coupled to and powered by the  
6 rechargeable electrical power source.

1 10. The umbrella apparatus according to claim 1, further comprising:

2 an electromechanical opening and closing system for opening and closing the  
3 canopy portion, the electromechanical opening and closing system being conductively  
4 coupled to and powered by the rechargeable electrical power system.

1 11. The umbrella apparatus according to claim 10, wherein the electromechanical  
2 opening and closing system comprises:

3 an electric motor carried by the pole portion;

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4 a control system for controlling the electric motor;  
5 a gear system coupled to the electric motor; and  
6 a cable and pulley system coupled to the gear system and the canopy portion;  
7 wherein the opening and closing of the canopy portion is achieved by the electric  
8 motor in response to selective operation of the control system.

*Sub  
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1 12. The umbrella apparatus according to claim 11, wherein the control system  
2 comprises:

3 a receiver conductively coupled to the electric motor;  
4 a remote transmitter for transmitting an encoded signal to the receiver; and  
5 a decoder conductively coupled to the receiver for decoding the encoded signal  
6 from the transmitter.

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1 13. The umbrella apparatus according to claim 1, further comprising:  
2 a cooling system carried by the canopy portion, the cooling system being  
3 conductively coupled to and powered by the rechargeable electrical power system.

*a*

1 14. The umbrella apparatus according to claim 13, wherein the cooling system  
2 comprises:  
3 at least one electric fan coupled to the canopy portion, each electric fan being  
4 conductively coupled to and powered by the rechargeable electrical power system.

1 15. The umbrella apparatus according to claim 13, wherein the cooling system  
2 comprises:

*Sub  
at*

3 a fluid reservoir operably associated with the umbrella apparatus;  
4 at least one mist nozzle coupled to the canopy portion, each mist nozzle being in  
5 fluid communication with the fluid;  
6 a conduit creating fluid communication between the fluid reservoir and each mist  
7 nozzle; and  
8 a pump for pumping the fluid from the reservoir through each mist nozzle.

1 16. An umbrella apparatus comprising:  
2 a base support portion;  
3 a pole portion coupled to the base support portion;  
4 a canopy portion hingedly coupled to the pole portion;  
5 a rechargeable electrical power system for providing electrical power to the  
6 umbrella apparatus;  
7 a solar energy system carried by the pole portion above the canopy portion, the  
8 solar energy system being adapted to collect solar energy and convert the solar energy  
9 into electrical energy, the solar energy system being conductively coupled to the  
10 rechargeable electrical power system, such that the solar energy collected and  
11 converted into electrical energy recharges the rechargeable electrical power system;  
12 and  
13 a combination of two or more of the following modular systems:  
14 a lighting system carried by the canopy portion;  
15 an electromechanical opening and closing system for opening and closing  
16 the canopy portion; or  
17 a cooling system;  
18 wherein each modular system is configured to be interchanged with each  
19 other, each modular system being conductively coupled to and powered by the  
20 rechargeable electrical power system.

1 17. The umbrella apparatus according to claim 16, wherein the lighting system  
2 comprises:  
3 a plurality of rib members coupled to the canopy portion; and  
4 a plurality of cold cathode tube elements carried by the rib members, each cold  
5 cathode tube element being conductively coupled to and powered by the rechargeable  
6 electrical power source.

1 18. The umbrella apparatus according to claim 16, wherein the lighting system  
2 comprises:  
3 a plurality of rib members coupled to the canopy portion; and

4 a plurality of light emitting diode elements carried by the rib members, each light  
5 emitting diode element being conductively coupled to and powered by the rechargeable  
6 electrical power source.

1 19. The umbrella apparatus according to claim 16, wherein the cooling system  
2 comprises:

- 3 a fluid reservoir operably associated with the umbrella apparatus;
- 4 at least one mist nozzle coupled to the canopy portion, each mist nozzle being in  
5 fluid communication with the fluid;
- 6 a conduit creating fluid communication between the fluid reservoir and each mist  
7 nozzle; and
- 8 a pump for pumping the fluid from the reservoir through each mist nozzle.

1 20. The umbrella apparatus according to claim 16, wherein the electromechanical  
2 opening and closing system comprises:

- 3 an electric motor carried by the pole portion;
- 4 a control system for controlling the electric motor;
- 5 a gear system coupled to the electric motor; and
- 6 a cable and pulley system coupled to the gear system and the canopy portion;
- 7 wherein the opening and closing of the canopy portion is achieved by the electric  
8 motor in response to selective operation of the control system.

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Attorney Docket No. 0638MH-40982-US

**DECLARATION FOR PATENT APPLICATION**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe that I am an original, first, and sole inventor, or joint inventor if other names are set forth below, of the subject matter which is claimed and for which a patent is sought on the invention entitled

**UMBRELLA APPARATUS**

said application being filed herewith, and being further identified by Attorney Docket No. 0638MH-40982-US.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the Office all information known to my person to be material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, Sec. 1.56(a).

I hereby declare that this application claims the benefit of U.S. Provisional Application No. 60/267,018, filed 7 February 2001, titled "Lighted Patio Umbrella Apparatus;" and of U.S. Provisional Application No. 60/335,933, filed 2 November 2001, titled "Outdoor Lighting Systems with Cold Cathode Tubes."

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of

1003-0111-020702

application or any patent issued thereon.

I hereby appoint Melvin A. Hunn, Reg. No. 32,574, Kenneth C. Hill, Reg. No. 29,650, and James E. Walton, Reg. No. 47,245 to prosecute this application and to transact all business in the U.S. Patent and Trademark Office in connection therewith.

Please send all correspondence to:

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Registration No. 47,245  
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(817) 332-2113 Voice  
(817) 332-2114 (Facsimile)  
jimwalton@hillandhunn.com (E-Mail)

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Inventor's Signature: \_\_\_\_\_  
Date of Signature: 2-7-02

Full Name of Inventor: **Gregory G. Kuelbs**  
Residence and P.O. Address: **1831 River Oaks Drive, Westlake, Texas 76262**  
Citizenship: **United States of America**

Declaration

YOT-1003-0112



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0638MH-40982-US

In Re Application of:	§	
	§	
<b>GREGORY G. KUELBS</b>	§	Examiner:
	§	
Serial No. <b>TO BE ASSIGNED</b>	§	
	§	
Filed: <b>HEREWITH</b>	§	Art Unit:
	§	
For: <b>TOP PORTION OF LAMP OR</b>	§	
<b>HANGABLE ACCESSORY</b>	§	

POWER OF ATTORNEY

Box: Patent Application  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

**WORLD FACTORY, INC.**, assignee of the entire right, title, and interest in the above-identified application filed herewith and being further identified by Attorney Docket No. 0638MH-40982-US, hereby appoints the following attorneys to prosecute this application and transact all business in the U.S. Patent and Trademark Office connected therewith:

**James E. Walton**, Reg. No. 47,245; **Melvin A. Hunn**, Reg. No. 32,574; and **Kenneth C. Hill**, Reg. No. 29,650.

Send all correspondence to:

James E. Walton  
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201 Main Street, Suite 1440  
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(817) 332-2114 (Facsimile)  
jimwalton@hillandhunn.com (E-Mail)

Power of Attorney

YOT-1003-0113

I hereby declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or document or any patent resulting therefrom.

WORLD FACTORY, INC.

By: \_\_\_\_\_

*[Handwritten Signature]*  
President

Date

*2-7-02*

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Power of Attorney

YOT-1003-0114

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0638MH-40982-US

In re Application of:	§	
<b>GREGORY G. KUELBS</b>	§	Examiner:
Serial No. <b>TO BE ASSIGNED</b>	§	
Filed: <b>7 FEBRUARY 2001</b>	§	Art Unit:
For: <b>UMBRELLA APPARATUS</b>	§	

**ASSERTION OF ENTITLEMENT TO SMALL ENTITY STATUS  
UNDER 37 C.F.R. § 1.27(c)**

**Box: Patent Application**  
Assistant Commissioner for Patents  
Washington, D.C.

Sir:

Pursuant to 37 C.F.R. 1.27(c)(2)(i), the undersigned hereby asserts that **WORLD FACTRORY, INC.**, owner by assignment of the entire right, title, and interest in the subject application, is a small entity as defined in 37 C.F.R. § 1.9(d) and is entitled to small entity status for purposes of paying reduced fees under Section 41 (a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the subject invention.

"EXPRESS MAIL" No. EV024943769US
Date of Deposit: <u>2/7/02</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service Express Mail "Post Office to Addressee" service under 37 C.F.R. §1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Box: Patent Application, P.O. Box 2327, Arlington, VA 22202-0327,
by <u><i>Jana E. Walters</i></u>

10034541-200202

Respectfully submitted,

2/7/02  
Date

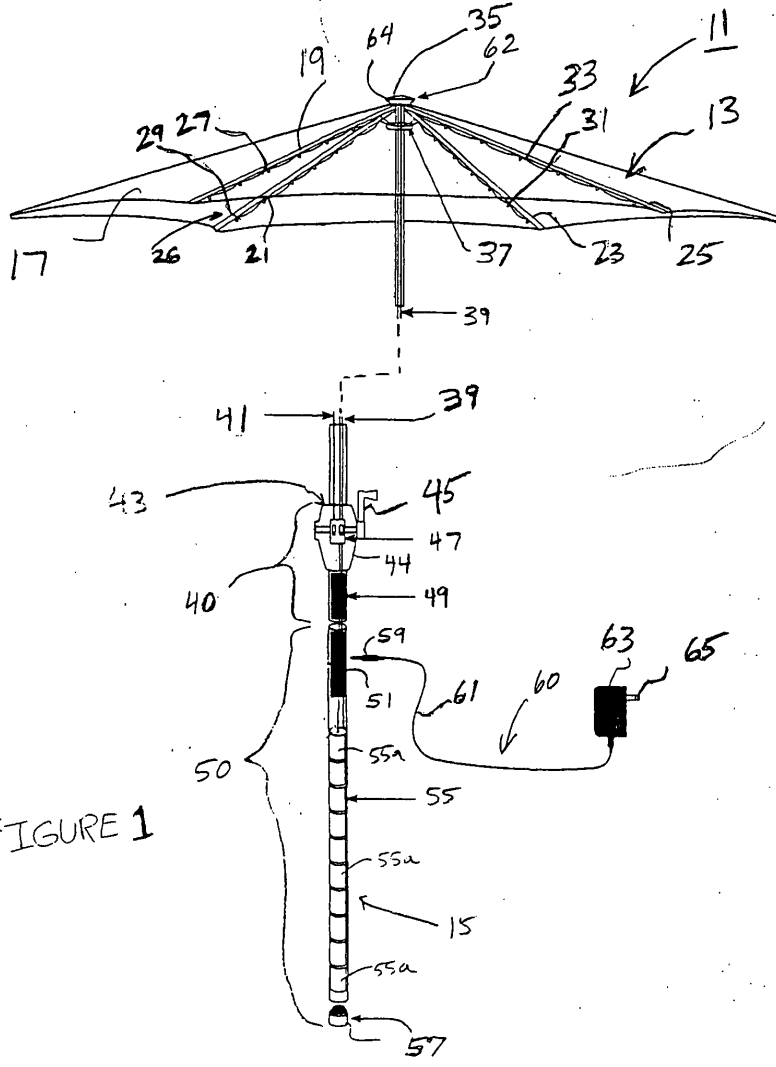
*James E. Walton*  
Melvin A. Hunn, Reg. No. 32,574  
Kenneth C. Hill, Reg. No. 29,650  
James E. Walton, Reg. No. 47,245  
**HILL & HUNN LLP**  
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[jameswalton@hillandhunn.com](mailto:jameswalton@hillandhunn.com) (e-mail)

ATTORNEYS FOR APPLICANT

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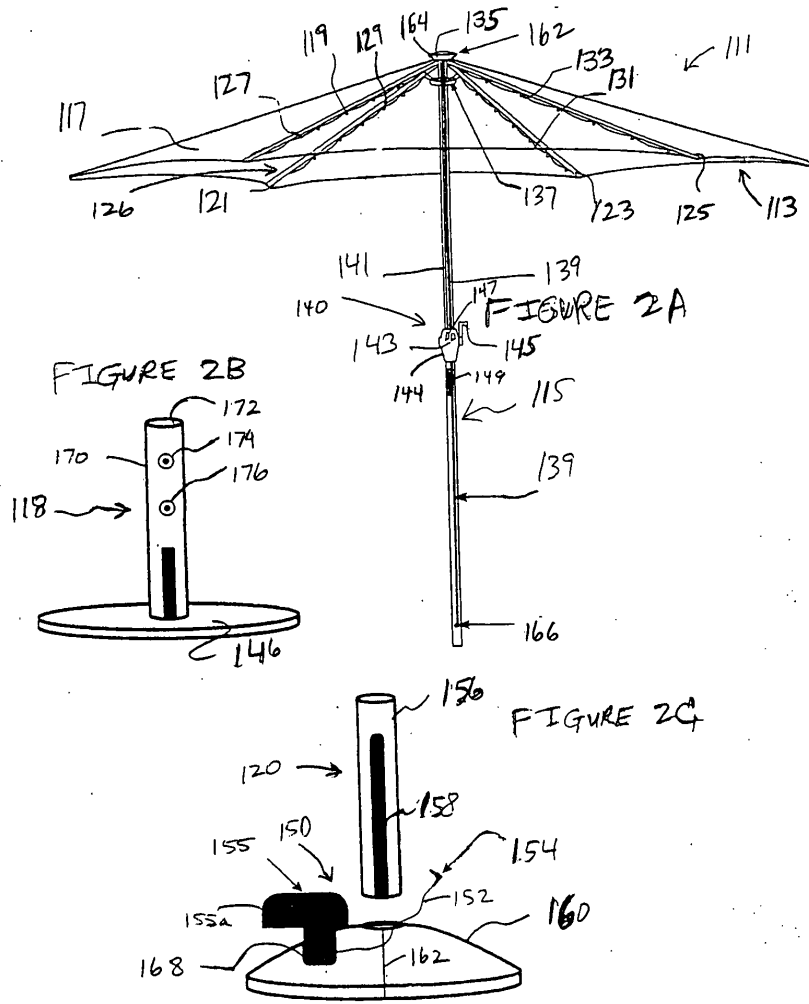
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FIGURE 1

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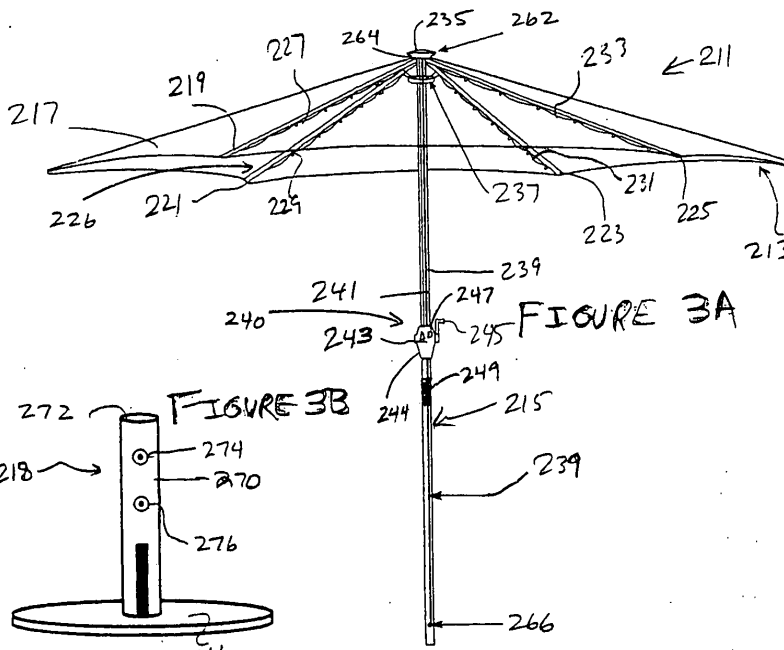


FIGURE 3A

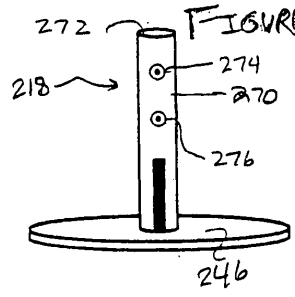


FIGURE 3B

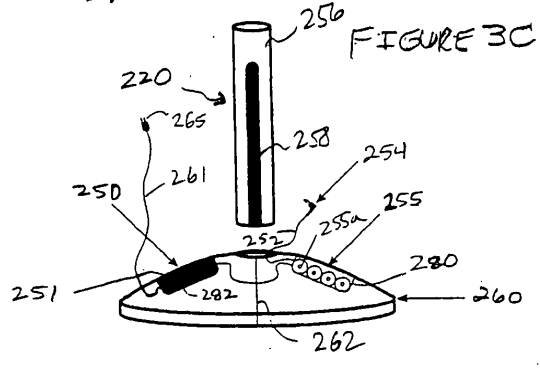
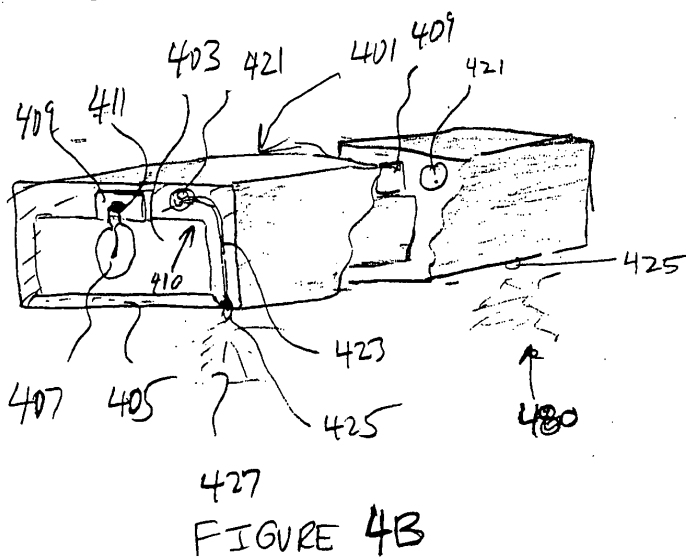
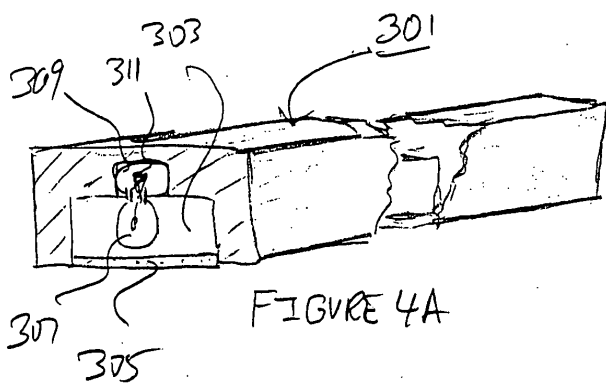


FIGURE 3C

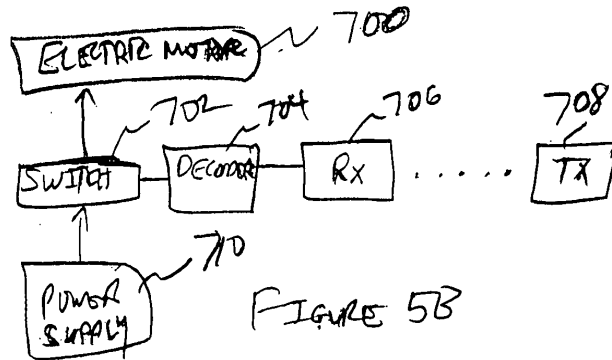
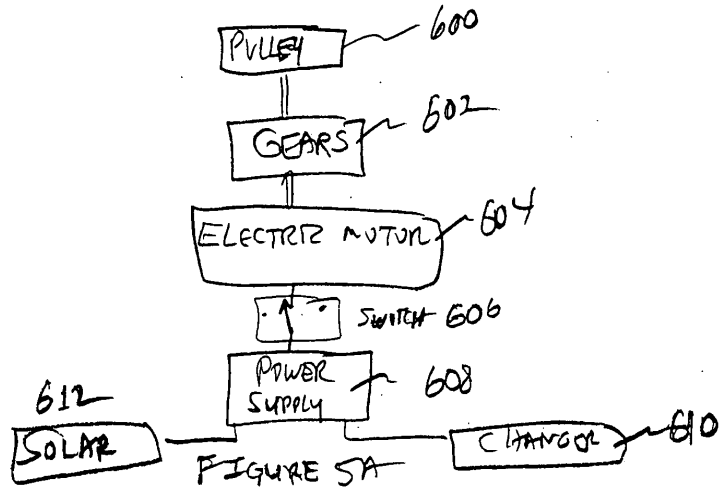


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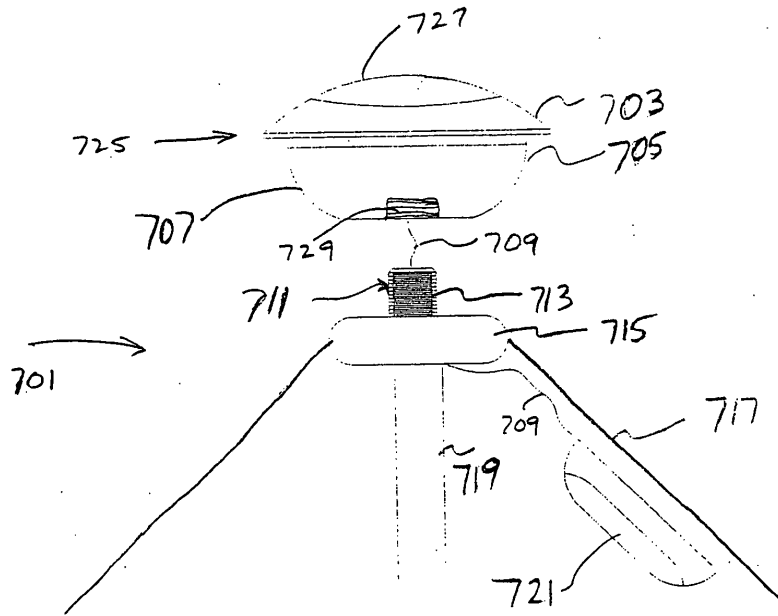


FIGURE 6

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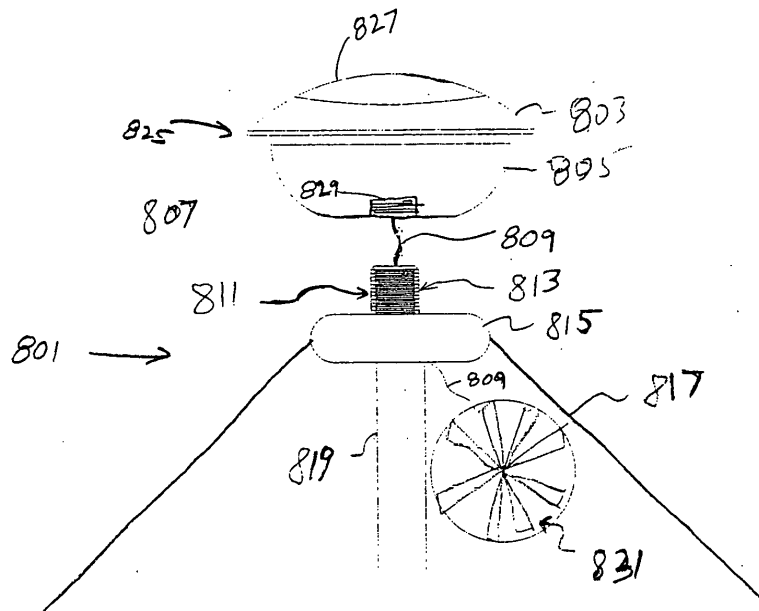
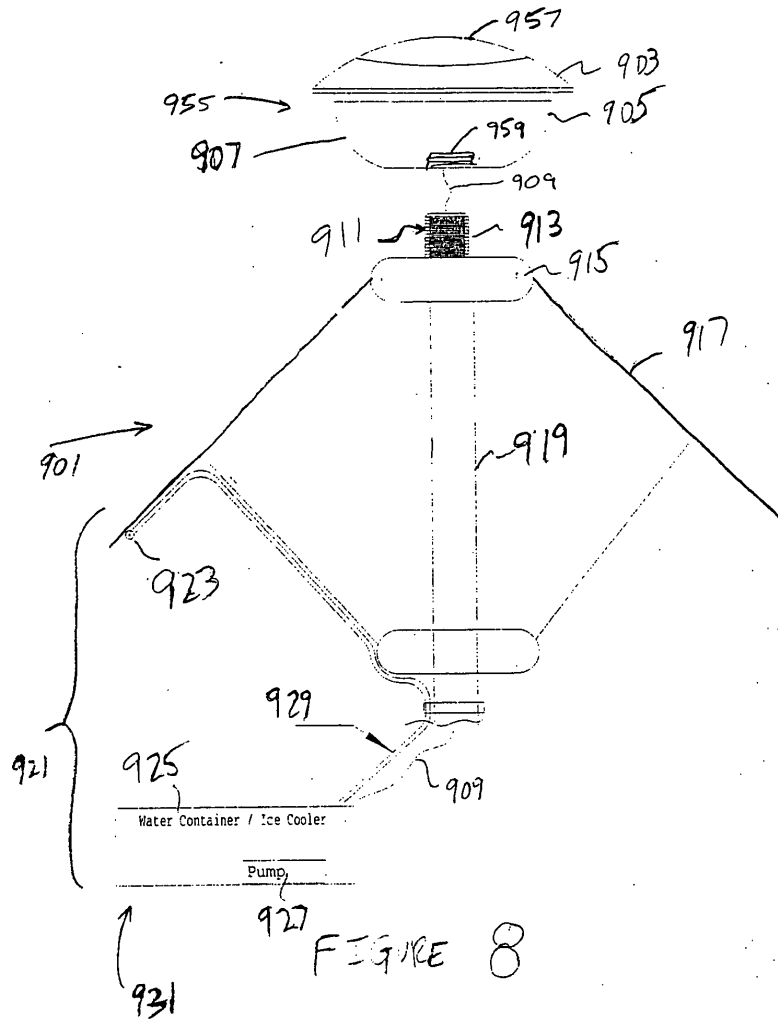


FIGURE 7

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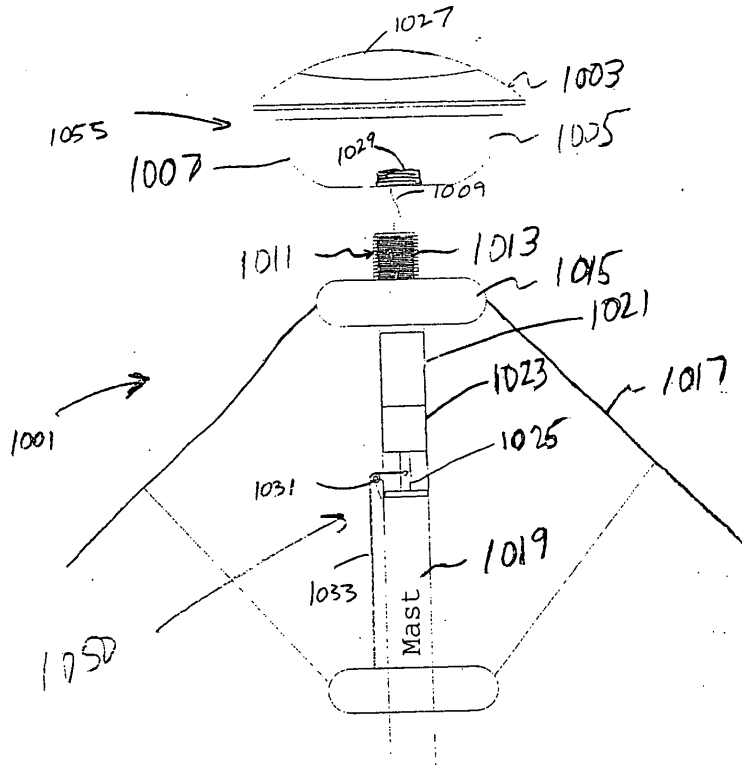
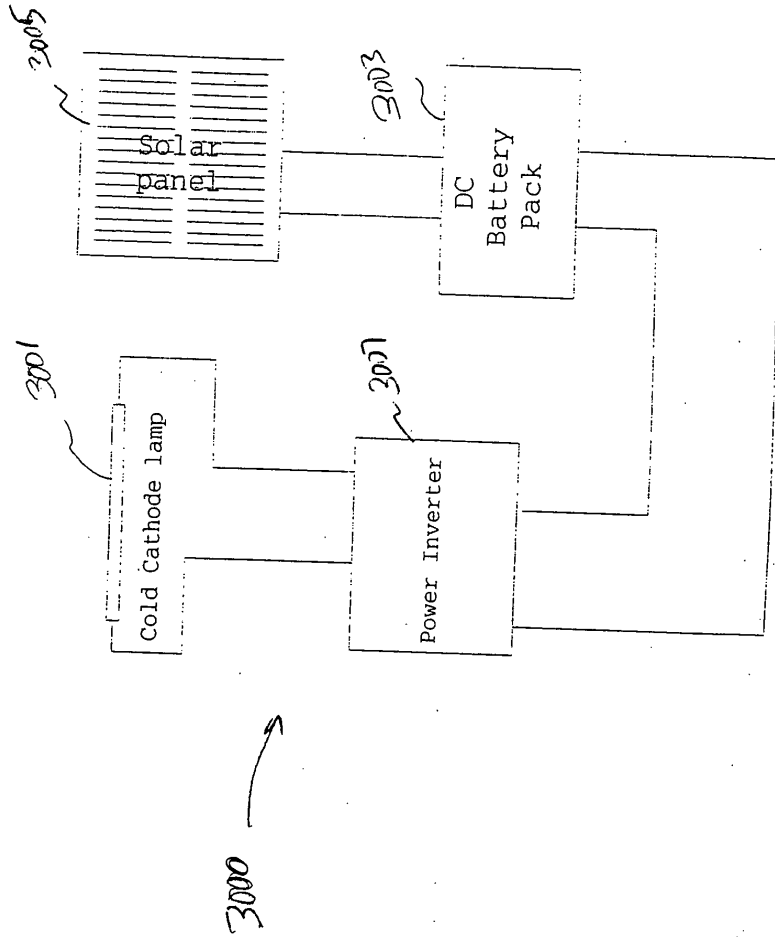


FIGURE 9

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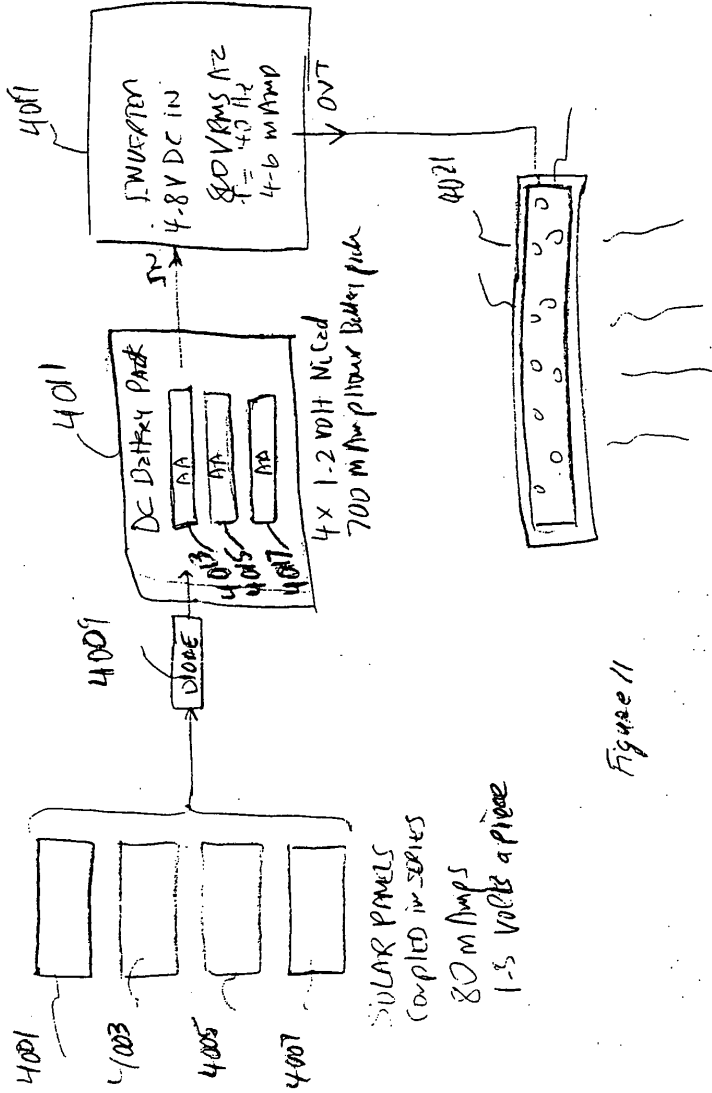
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0638MH-40982-US

31054 U.S. PTO  
02/07/02

In re Application of:

GREGORY G. KUELBS

Serial No. TO BE ASSIGNED

Filed: 7 FEBRUARY 2001

For: UMBRELLA APPARATUS

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Examiner:

Art Unit:

31054 U.S. PTO  
10/068424  
02/07/02

TRANSMITTAL

10068424-020702

Box: Patent Application  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Please file the following enclosed documents in the subject application:

1. This Transmittal with Certificate of Express Mail;
2. Patent Application Specification, including Twelve Sheets of Drawings;
3. Declaration;
4. Assertion of Entitlement to Small Entity Status;
5. Assignment and Assignment Cover Sheet;
6. Power of Attorney;
7. Our check in the amount of \$410.00 to cover the \$370.00 Filing Fee and the \$40.00 Assignment Recordation Fee; and
8. Our return postcard which we would appreciate you date stamping and returning to us.

"EXPRESS MAIL" No. EV024943769US	
Date of Deposit:	<u>2/7/02</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service Express Mail "Post Office to Addressee" service under 37 C.F.R. §1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Box: Patent Application, P.O. Box 2327, Arlington, VA 22202-0327.	
by	<u>Jana E. Walter</u>

The Filing Fee is calculated as follows:

Basic Fee	\$370.00
Assignment Recordation Fees	\$ 40.00
Total	<u>\$410.00</u>

Enclosed is a check in the amount of \$410.00 to cover the \$370.00 Filing Fee and the \$40.00 Assignment Recordation Fee. No other fees is deemed to be necessary; however, the undersigned hereby authorizes the Commissioner to charge any additional fees, or credit any overpayments, to Deposit Account No. 50-1060.

Respectfully submitted,

2/7/02  
Date

James E. Walton  
James E. Walton, Reg. No. 47,245  
Kenneth C. Hill, Reg. No. 29,650  
Melvin A. Hunn, Reg. No. 32,574  
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ATTORNEYS FOR APPLICANT

10068424-020702

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0638MH-40982-US

In re Application of:

GREGORY G. KUELBS

Serial No. TO BE ASSIGNED

Filed: 7 FEBRUARY 2001

For: UMBRELLA APPARATUS

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Examiner:

Art Unit:

10066474-020702

CERTIFICATION UNDER 35 USC SECTION 122(b)(2)(B)(i) OF NO FOREIGN FILINGS

Honorable Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

Sir:

Applicant hereby certifies (through counsel) that the above-identified application filed herewith has not, and will not, be the subject of an application filed in another country, or under a multi-lateral international agreement that requires publication of applications eighteen (18) months after filing. Therefore, Applicant requests that the subject application not be published under 35 U.S.C. § 122(b)(1).

"EXPRESS MAIL" No. EV024943769US	
Date of Deposit:	<u>2/7/02</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service Express Mail "Post Office to Addressee" service under 37 C.F.R. §1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Box: Patent Application, P.O. Box 2327, Arlington, VA 22202-0327,	
by	<u><i>Jana E. Watts</i></u>

No additional fees are deemed to be necessary; however, the undersigned hereby authorizes the Commissioner to charge any additional fees, and credit any overpayment, to Deposit Account No. 50-1060.

Respectfully submitted,

2/7/02  
Date

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ATTORNEYFOR APPLICANTS

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CONFIRMATION NO. 9580

Bib Data Sheet

<b>SERIAL NUMBER</b> 10/068,424	<b>FILING DATE</b> 02/07/2002 <b>RULE</b>	<b>CLASS</b> 362 ✓	<b>GROUP ART UNIT</b> 2875 ✓	<b>ATTORNEY DOCKET NO.</b> 0638MH-40982-US	
<b>APPLICANTS</b> Gregory G. Kuelbs, Westlake, TX;					
** CONTINUING DATA ..... <i>Yes</i> ..... <i>JS 3/17/2003</i>					
THIS APPLN CLAIMS BENEFIT OF 60/267,018 02/07/2001 AND CLAIMS BENEFIT OF 60/335,933 11/02/2001					
** FOREIGN APPLICATIONS ..... <i>None</i> ..... <i>JS 3/17/2003</i>					
IF REQUIRED, FOREIGN FILING LICENSE GRANTED.. SMALL ENTITY ** ** 03/07/2002					
Foreign Priority claimed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	STATE OR COUNTRY TX	SHEETS DRAWING 12	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 5
Verified and Acknowledged Examined Signature: <i>JS</i> Initials: <i>JS</i>					
<b>ADDRESS</b> James E. Walton HILL & HUNN, LLP Suite 1440 201 Main Street Fort Worth, TX 76102-3105					
<b>TITLE</b> Umbrella apparatus					
<b>FILING FEE RECEIVED</b> 370	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees ( Filing ) <input type="checkbox"/> 1.17 Fees ( Processing Ext. of time ) <input type="checkbox"/> 1.18 Fees ( Issue ) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit	

YOT-1003-0133

COPY OF PAPERS  
ORIGINALLY FILED

*499 2875-2*  
*7-10-02*



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0638MH-40982-US

Application of:

**GREGORY G. KUELBS**

Serial No. 10/068,424

Filed: 7 FEBRUARY 2002

For: **UMBRELLA APPARATUS**

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Examiner:

Art Unit: 2875

**TRANSMITTAL**

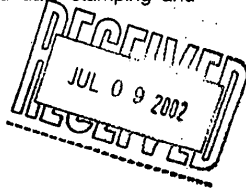
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Please file the following enclosed documents in the subject application:

1. This Transmittal with Certificate of Mailing;
2. Information Disclosure Statement; and
3. Our return postcard which we would appreciate you date stamping and returning to us.

RECEIVED  
JUN 25 2002  
TC 2800 MAIL ROOM

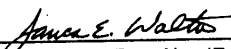


<b>CERTIFICATE OF MAILING</b> 37 C.F.R. § 1.8(a)	
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail service with sufficient postage under 37 C.F.R. § 1.8(a) on the date indicated below and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.	
Date of Deposit: <u>6/12/02</u>	By: <u>Janna C. Walters</u>

No fee is deemed to be necessary; however, the undersigned hereby authorizes the Commissioner to charge any fees that are necessary, or credit any overpayments, to Deposit Account No. 50-1060.

Respectfully submitted,

6/12/02  
Date

  
James E. Walton, Reg. No. 47,245  
Kenneth C. Hill, Reg. No. 29,650  
Melvin A. Hunn, Reg. No. 32,574  
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ATTORNEYS FOR APPLICANT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



COPY OF PATENT Attorney Docket No. 0638MH-40982-US  
ORIGINALLY FILED

In re Application of:

GREGORY G. KUELB

Serial No. 10/068,424

Filed: 7 FEBRUARY 2002

For: UMBRELLA APPARATUS

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Examiner:

Art Unit: 2875

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Filed herewith is a Form PTO-1449 listing references that may be material to the patentability of the invention disclosed and claimed in the subject application. Copies of the references listed on the Form PTO-1449 are included herewith.

This submission is made pursuant to 37 C.F.R. §§ 1.56 and 1.97(b).

RECEIVED  
JUN 25 2002  
TC 2800 MAIL ROOM

<b>CERTIFICATE OF MAILING</b> 37 C.F.R. § 1.8(a)	
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail service with sufficient postage under 37 C.F.R. § 1.8(a) on the date indicated below and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.	
Date of Deposit:	6/12/02 By: <i>Jana E. Walts</i>

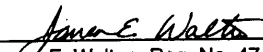


This Information Disclosure Statement is being filed under 37 C.F.R. § 1.97(b)(3) before the mailing date of the first Office Action.

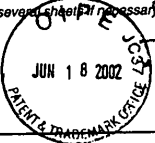
No fee is deemed to be necessary; however, the undersigned hereby authorizes the Commissioner to charge any fees that are necessary, or credit any overpayments, to Deposit Account No. 50-1060.

Respectfully submitted,

6/12/02  
Date

  
James E. Walton, Reg. No. 47,245  
Kenneth C. Hill, Reg. No. 29,650  
Melvin A. Hunn, Reg. No. 32,574  
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[melhunn@hillandhunn.com](mailto:melhunn@hillandhunn.com) (e-mail)

ATTORNEYS FOR APPLICANTS

<b>Form PTO-1449</b>		Attorney Docket No. 0638MH-40982-US		Serial No. 10/068,424			
LIST OF PRIOR ART CITED BY APPLICANT (Use several sheets if necessary)				COPY OF PAPERS ORIGINALLY FILED			
						Applicant GREGORY G. KUELBS	
						Filing Date 7 February 2002	
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NO.	PUBLICATION DATE	INVENTOR NAME	CLASS/SUBCLASS	FILING DATE		
AA	5,126,922	06/30/92	Andreasen	362/32	12/04/89		
AB	5,349,975	09/27/94	Valdner	135/16	11/02/93		
AC	5,463,536	10/31/95	Chou et al.	362/102	02/28/95		
AD	6,017,188	01/25/00	Benton	416/5	07/20/98		
FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NO.	PUBLICATION DATE	COUNTRY	CLASS/SUBCLASS	TRANSLATION YES NO		
OTHER PRIOR ART (including author, title, date, pertinent page, etc.)							
Date Considered: <i>H.S. Sturme</i>   <i>12/4/2002</i>							
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

YOT-1003-0138



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

OFFICE ACTION

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,424	02/07/2002	Gregory G. Kuelbs	0638MH-40982-US	9580

7590 12/09/2002  
 James E. Walton  
 HILL & HUNN, LLP  
 Suite 1440  
 201 Main Street  
 Fort Worth, TX 76102-3105

EXAMINER

SAWHNEY, HARGOBIND S

ART UNIT	PAPER NUMBER
2875	

DATE MAILED: 12/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/068,424	KUELBS, GREGORY G.	
	Examiner	Art Unit	
	Hargobind S Sawhney	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)  Responsive to communication(s) filed on 16 June 2002.

2a)  This action is FINAL. 2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)  Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 16-20 is/are allowed.

6)  Claim(s) 1-4, 13 and 14 is/are rejected.

7)  Claim(s) 5-12 and 15 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)  The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All b)  Some \* c)  None of:

1.  Certified copies of the priority documents have been received.

2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)  The translation of the foreign language provisional application has been received.

15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)

2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.

4)  Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.

5)  Notice of Informal Patent Application (PTO-152)

6)  Other:

Application/Control Number: 10/068,424  
Art Unit: 2875

Page 2

#### DETAILED ACTION

1. The information statement filed on June 18,2002 has been entered.

#### *Drawings*

2. The drawings filed on February 7,2002 are acceptable subject to correction of the informalities indicated on the attached "Notice of Draftperson's Patent Drawing Review," PTO-948.

#### *Claim Objections*

2. Claim 12 is objected to because of the following informalities:  
Claim 12, line 6, "fro' needs to be corrected as -for--.  
Appropriate correction is required.

YOT-1003-0141

**Claim Rejections - 35 USC § 102**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1,4,13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Mueller et al. (U.S. Patent No. 5,172,711).

Regarding claims 1,4,13 and 14, Mueller et al. (U.S. Patent No. 5,172,711) discloses an umbrella apparatus 80 (Figure 1, column 5, line 46) comprising:

- A base support portion 28' (Figure 1, column 5, line 56), a pole portion 16' (Figure 1, column 2, line 56) coupled to the base support portion 28', a canopy portion 12' (Figure 1, column 5, line 55) hingedly coupled (claims 2 and 3) to the pole portion 16' (Figure 5), a rechargeable electric power system 26' (Figure 1, column 6, lines 16-18) providing electrical power to the umbrella apparatus 80;
- a solar system 82 (Figure 1, column 6, lines 60 and 61) carried by the pole portion 16, and being positioned above the canopy portion 12' (Figure 1, column 6, lines 60 and 61) for collecting solar energy and converting it into electrical energy;

- the solar energy system being conductively coupled to the rechargeable batteries 26' (Figure 1, column 6, lines 16-18);
- a cooling system 18' (Figure 1, column 5, lines 56 and 57) carried by the canopy portion, and electrically coupled to the rechargeable electrical power system 26'; and
- the cooling system including a fan 18' (Figure 1, column 5, lines 56 and 57) electrically coupled to the rechargeable electrical power system 26'.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller et al. (U.S. Patent No. 5,172,711) in view of Benton (U.S. Patent No. 6,017,188).

Regarding Claim 2, Mueller et al. (U.S. Patent No. 5,172,711) teaches an umbrella apparatus comprising a rechargeable electrical power system being carried by its base portion, and a solar energy system being mounted on the upper surface of its

canopy. However, Mueller does not teach a rechargeable electrical power system and a solar energy system both being carried by a housing mounted on the pole portion of the umbrella apparatus.

On the other hand, Benton (U.S. Patent No. 6,017,188) discloses a patio table and a pole fan combination comprising a rechargeable electrical power system and a solar energy system both being carried by a housing mounted on the pole portion of the apparatus.

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the umbrella apparatus of Mueller by providing positioning of a rechargeable electrical power system and a solar energy system as taught by Benton for the benefit and advantage of less time consuming and less costly assembly requiring less wiring.

Regarding Claim 3, Mueller et al. (U.S. Patent No. 5,172,711) teaches an umbrella apparatus comprising a rechargeable electrical power system being carried by its base portion, and a solar energy system being mounted on the upper surface of its canopy. However, Mueller does not teach a solar energy system being carried by a housing mounted on the pole portion of the umbrella apparatus.

On the other hand, Benton (U.S. Patent No. 6,017,188) discloses a patio table and a pole fan combination comprising a solar energy system both being carried by a housing mounted on the pole portion of the apparatus.

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the umbrella apparatus of Mueller by providing a solar energy



system carried by a housing mounted on the pole portion of the umbrella apparatus as taught by Benton (U.S. Patent No. 6,017,188) as the locations taught by Mueller and that by Benton are functionally equivalent. In addition, the poisoning taught by Benton has benefit of less time-consuming assembly of the apparatus.

***Allowable Subject Matter***

7. Claims 5-12 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record, including Mueller et al. (U.S. Patent No. 5,172,711) and Benton (U.S. Patent No. 6,017,188), does not show or suggest the applicant's invention as claimed. Specifically, the prior art of record does not disclose proper motivation for combining:

- a rechargeable electrical power system rechargeable from an AC power outlet as recited in Claim 5;
- a lighting system carried by the canopy portion as recited in Claim 6;
- an electromechanical opening and closing the canopy as recited in Claim 10; and

Application/Control Number: 10/068,424  
Art Unit: 2875

Page 7

- a cooling system a fluid reservoir, a mist nozzle hydraulically coupled to a pump as recited in Claim 15.

Claims 7-9 are necessarily objected because of their dependency on the objected base Claim 6.

Claim 11 and 12 are necessarily objected because of their dependency on the objected base Claim 10.

8. Claims 16-20 are allowed.

The prior art of record, including Mueller et al. (U.S. Patent No. 5,172,711) and Benton (U.S. Patent No. 6,017,188), does not show or suggest the applicant's invention as claimed. Specifically, the prior art of record does not disclose proper motivation for combining at least two of the following modular, interchangeable systems:

- a cooling system as recited in Claim 16;
- a lighting system carried by the canopy portion as recited in Claim 16; and
- an electromechanical opening and closing the canopy as recited in Claim 16.

Claims 17-20 are necessarily allowed because of their dependency on the allowed base Claim 16.

YOT-1003-0146

Application/Control Number: 10/068,424  
Art Unit: 2875

Page 8

**Conclusion**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mozdzanowski (U.S. Patent No. 5,273,062) discloses an umbrella apparatus comprising some of the claimed features claimed a solar energy system as disclosed by the applicant.

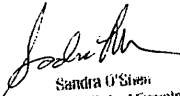
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hargobind S, Sawhney whose telephone number is 703-306-5909. The examiner can normally be reached on 7:30 - 5:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 703-305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-8303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2956.

HSS

12/4/2002

  
Sandra O'Shea  
Supervisory Patent Examiner  
Technology Center 2800

YOT-1003-0147

<b>Notice of References Cited</b>	Application/Control No. 10/068,424	Applicant(s)/Patent Under Reexamination KUELBS, GREGORY G.	
	Examiner Hargobind S Sawhney	Art Unit 2875	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
A	US-5,172,711	12-1992	Mueller et al.	135/16
B	US-5,273,062	12-1993	Mozdzanowski, Peter	135/16
C	US-			
D	US-			
E	US-			
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
L	US-			
M	US-			

FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
N					
O					
P					
Q					
R					
S					
T					

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	
V	
W	
X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

NOTICE OF DRAFTSPERSON'S  
PATENT DRAWING REVIEW

The drawing(s) filed (insert date) 02/07/02 are:

- A.  approved by the Draftsperson under 37 CFR 1.84 or 1.152.  
 B.  objected to by the Draftsperson under 37 CFR 1.84 or 1.152 for the reasons indicated below. The Examiner will require submission of new, corrected drawings when necessary. Corrected drawing must be submitted according to the instructions on the back of this notice.

<p>1. DRAWINGS. 37 CFR 1.84(a): Acceptable categories of drawings:                  Black ink. Color.                  ___ Color drawings are not acceptable until petition is granted.                  Fig(s) _____                  ___ Pencil and non black ink not permitted. Fig(s) _____</p> <p>2. PHOTOGRAPHS. 37 CFR 1.84(b)                  ___ 1 full-tone set is required. Fig(s) _____                  ___ Photographs may not be mounted. 37 CFR 1.84(c)                  ___ Poor quality (half-tone). Fig(s) _____</p> <p>3. TYPE OF PAPER. 37 CFR 1.84(e)                  ___ Paper not flexible, strong, white, and durable.                  Fig(s) _____                  ___ Erasures, alterations, overwritings, interlineations,                  folds, copy machine marks not accepted. Fig(s) _____                  ___ Mylar, velum paper is not acceptable (too thin).                  Fig(s) _____</p> <p>4. SIZE OF PAPER. 37 CFR 1.84(f): Acceptable sizes:                  ___ 21.0 cm by 29.7 cm (DIN size A4)                  ___ 21.6 cm by 27.9 cm (8 1/2 x 11 inches)                  ___ All drawing sheets not the same size.                  Sheet(s) _____                  ___ Drawings sheets not an acceptable size. Fig(s) _____</p> <p>5. MARGINS. 37 CFR 1.84(g): Acceptable margins:                  Top 2.5 cm Left 2.5cm Right 1.5 cm Bottom 1.0 cm                  SIZE: A4 Size                  Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm                  SIZE: 8 1/2 x 11                  Margins not acceptable. Fig(s) _____                  Top (T) _____ Left (L)                  Right (R) _____ Bottom (B)</p> <p>6. VIEWS. 37 CFR 1.84(h)                  REMINDER: Specification may require revision to correspond to drawing changes.                  Partial views. 37 CFR 1.84(h)(2)                  ___ Brackets needed to show figure as one entity.                  Fig(s) _____                  ___ Views not labeled separately or properly.                  Fig(s) _____                  ___ Enlarged view not labeled separately or properly.                  Fig(s) _____</p> <p>7. SECTIONAL VIEWS. 37 CFR 1.84 (h)(3)                  ___ Hatching not indicated for sectional portions of an object.                  Fig(s) _____                  ___ Sectional designation should be noted with Arabic or Roman numbers. Fig(s) _____</p>	<p>8. ARRANGEMENT OF VIEWS. 37 CFR 1.84(j)                  ___ Words do not appear on a horizontal, left-to-right fashion when page is either upright or turned so that the top becomes the right side, except for graphs. Fig(s) _____</p> <p>9. SCALE. 37 CFR 1.84(k)                  ___ Scale not large enough to show mechanism without crowding when drawing is reduced in size to two-thirds in reproduction.                  Fig(s) _____</p> <p>10. CHARACTER OF LINES, NUMBERS, &amp; LETTERS. 37 CFR 1.84(i)                  ___ Lines, numbers &amp; letters not uniformly thick and well defined, clean, durable, and black (poor line quality).                  Fig(s) <u>1-11</u></p> <p>11. SHADING. 37 CFR 1.84(m)                  ___ Solid black areas pale. Fig(s) _____                  ___ Solid black shading not permitted. Fig(s) _____                  ___ Shade lines, pale, rough and blurred. Fig(s) _____</p> <p>12. NUMBERS, LETTERS, &amp; REFERENCE CHARACTERS. 37 CFR 1.84(p)                  ___ Numbers and reference characters not plain and legible.                  Fig(s) _____                  ___ Figure legends are poor. Fig(s) _____                  ___ Numbers and reference characters not oriented in the same direction as the view. 37 CFR 1.84(p)(1)                  Fig(s) _____                  ___ English alphabet not used. 37 CFR 1.84(p)(2)                  Figs _____                  ___ Numbers, letters and reference characters must be at least .32 cm (1/8 inch) in height. 37 CFR 1.84(p)(3)                  Fig(s) _____</p> <p>13. LEAD LINES. 37 CFR 1.84(q)                  ___ Lead lines cross each other. Fig(s) _____                  ___ Lead lines missing. Fig(s) _____</p> <p>14. NUMBERING OF SHEETS OF DRAWINGS. 37 CFR 1.84(i)                  ___ Sheets not numbered consecutively, and in Arabic numerals beginning with number 1. Sheet(s) _____</p> <p>15. NUMBERING OF VIEWS. 37 CFR 1.84(u)                  ___ Views not numbered consecutively, and in Arabic numerals, beginning with number 1. Fig(s) _____</p> <p>16. CORRECTIONS. 37 CFR 1.84(w)                  ___ Corrections not made from prior PTO-948 dated _____</p> <p>17. DESIGN DRAWINGS. 37 CFR 1.152                  ___ Surface shading shown not appropriate. Fig(s) _____                  ___ Solid black shading not used for color contrast.                  Fig(s) _____</p>
<p>COMMENTS</p>	

REVIEWER Draftsman: Son Lam DATE 12/05/02 TELEPHONE NO. \_\_\_\_\_  
(703)308-0366

ATTACHMENT TO PAPER NO. 3



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

41a  
J. Steptoe  
2-9-03

Attorney Docket No. 0638MH-40982-US

In re Application of:

**GREGORY G. KUELBS**

Examiner: **SAWHNEY, HARGOBIND S.**

Serial No. **10/068,424**

Filed: **7 FEBRUARY 2002**

Art Unit: **2875**

For: **UMBRELLA APPARATUS**

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**AMENDMENT A**

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MAR - 3 2003  
TECHNOLOGY CENTER 2800

AMENDMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

This Amendment A is in response to the Office Action dated 9 December 2002.

Please enter the following amendments and consider the following remarks.

02/27/2003 SDENDB1 00000033 10068424  
01 FC:2201 84.00 DP

<b>CERTIFICATE OF MAILING</b> 37 C.F.R. § 1.8(a)	
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail service with sufficient postage under 37 C.F.R. § 1.8(a) on the date indicated below and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.	
Date of Deposit: <u>2/12/03</u>	By: <u>Jana E. Walter</u>

**IN THE CLAIMS:**

Please amend the claims as follows. Enclosed herewith is a Clean Version of the Amended Claims incorporating the following amendments.

1. (Hereby Cancelled).
2. (Hereby Cancelled).
3. (Hereby Cancelled).
4. (Hereby Cancelled).

1-5. (Once Amended) [The] ~~An~~ umbrella apparatus [according to claim 1, further] comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
and

an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet.

2. ~~8.~~ (Once Amended) [The] An umbrella apparatus [according to claim 1, further] comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
and

a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system.

3. ~~7.~~ (Not Amended) The umbrella apparatus according to claim ~~8.~~<sup>2</sup>, wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion; and

a plurality of cold cathode tube elements carried by the rib members, each cold cathode tube element being conductively coupled to and powered by the rechargeable electrical power source.

4. ~~8.~~ (Not Amended) The umbrella apparatus according to claim ~~8.~~<sup>2</sup>, wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion; and

a plurality of light emitting diode elements carried by the rib members, each light emitting diode element being conductively coupled to and powered by the rechargeable electrical power source.



5. ~~8~~ (Not Amended) The umbrella apparatus according to claim ~~8~~<sup>2</sup>, wherein the lighting system comprises:

- a plurality of rib members coupled to the canopy portion; and
- a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power source.

6. ~~10~~ (Once Amended) [The] An umbrella apparatus [according to claim 1, further] comprising:

- a base support portion;
- a pole portion coupled to the base support portion;
- a canopy portion hingedly coupled to the pole portion;
- a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
and

an electromechanical opening and closing system for opening and closing the canopy portion, the electromechanical opening and closing system being conductively coupled to and powered by the rechargeable electrical power system.

7. ~~11~~ (Not Amended) The umbrella apparatus according to claim ~~10~~<sup>4</sup>, wherein the electromechanical opening and closing system comprises:

- an electric motor carried by the pole portion;
- a control system for controlling the electric motor;
- a gear system coupled to the electric motor; and
- a cable and pulley system coupled to the gear system and the canopy portion;

wherein the opening and closing of the canopy portion is achieved by the electric motor in response to selective operation of the control system.

8. ~~12.~~ (Once Amended) The umbrella apparatus according to claim ~~11~~<sup>7</sup>, wherein the control system comprises:  
a receiver conductively coupled to the electric motor;  
a remote transmitter for transmitting an encoded signal to the receiver; and  
a decoder conductively coupled to the receiver for decoding the encoded signal [fro] ~~from~~ the transmitter.

13. (Hereby Cancelled).

14. (Hereby Cancelled).

9. ~~15.~~ (Once Amended) [The] An umbrella apparatus [according to claim 13, wherein the cooling system comprises] ~~comprising~~:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
and

a cooling system carried by the canopy portion, the cooling system being conductively coupled to and powered by the rechargeable electrical power system, the cooling system comprising:

a fluid reservoir operably associated with the umbrella apparatus;

at least one mist nozzle coupled to the canopy portion, each mist nozzle being in fluid communication with the fluid;  
a conduit creating fluid communication between the fluid reservoir and each mist nozzle; and  
a pump for pumping the fluid from the reservoir through each mist nozzle.

<sup>10</sup> 18.

(Allowed) An umbrella apparatus comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

a combination of two or more of the following modular systems:

a lighting system carried by the canopy portion;

an electromechanical opening and closing system for opening and closing the canopy portion; or

a cooling system;

wherein each modular system is configured to be interchanged with each other, each modular system being conductively coupled to and powered by the rechargeable electrical power system.

11 <sup>10</sup> 17.

(Allowed) The umbrella apparatus according to claim <sup>10</sup> 16, wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion; and

a plurality of cold cathode tube elements carried by the rib members, each cold

cathode tube element being conductively coupled to and powered by the rechargeable electrical power source.

12. ~~18.~~ (Allowed) The umbrella apparatus according to claim ~~16.~~<sup>10</sup>, wherein the lighting system comprises:  
a plurality of rib members coupled to the canopy portion; and  
a plurality of light emitting diode elements carried by the rib members, each light emitting diode element being conductively coupled to and powered by the rechargeable electrical power source.

13. ~~18.~~ (Allowed) The umbrella apparatus according to claim ~~16.~~<sup>10</sup>, wherein the cooling system comprises:  
a fluid reservoir operably associated with the umbrella apparatus;  
at least one mist nozzle coupled to the canopy portion, each mist nozzle being in fluid communication with the fluid;  
a conduit creating fluid communication between the fluid reservoir and each mist nozzle; and  
a pump for pumping the fluid from the reservoir through each mist nozzle.

14. ~~20.~~ (Allowed) The umbrella apparatus according to claim ~~18.~~<sup>10</sup>, wherein the electromechanical opening and closing system comprises:  
an electric motor carried by the pole portion;  
a control system for controlling the electric motor;  
a gear system coupled to the electric motor; and  
a cable and pulley system coupled to the gear system and the canopy portion;  
wherein the opening and closing of the canopy portion is achieved by the electric motor in response to selective operation of the control system.

### REMARKS

Claims 1-20 are currently pending in the application. Claims 1, 4, 13, and 14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Mueller et al. Claims 2 and 3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mueller et al. in view of Benton. Claims 5-12 and 15 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 16-20 are allowed.

#### Claim Objections:

Claim 12 stands objected to as containing a typographical error.

Claim 12 is hereby amended to correct the typographical error. The Applicant submits that Claim 12, as amended, is now in condition for allowance. Therefore, the Applicant respectfully requests that Claim 12, as amended, be allowed.

#### Claim Rejections Under 35 U.S.C. § 102(b):

Claims 1, 4, 13, and 14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Mueller et al. The Examiner states that Mueller et al. disclose an umbrella having a base support portion, a pole portion coupled to the base support portion, a canopy portion hingedly coupled to the pole portion, a rechargeable electrical power system, a solar system carried by the pole portion above the canopy portion and coupled to the rechargeable electrical power system, and a cooling system having a fan carried by the canopy portion and coupled to the rechargeable electrical power system.

Claims 1, 4, 13, and 14 are hereby cancelled. However, the Applicant hereby reserves the right to file continuation applications to pursue Claims 1, 4, 13, and 14.

#### Claim Rejections Under 35 U.S.C. § 103(a):

Claims 2 and 3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mueller et al. in view of Benton. With regard to Claim 2, the Examiner states that Mueller et al. do not teach a rechargeable electrical power system and a solar energy system both

being carried by a housing mounted on the pole portion. The Examiner relies upon Benton for this feature, and states that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Mueller et al. umbrella apparatus by providing the rechargeable electrical power system and solar energy system as taught by Benton. With regard to Claim 3, the Examiner states that Mueller et al. do not teach a solar energy system being carried by a housing mounted on the pole portion. The Examiner relies upon Benton for this feature, and states that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Mueller et al. umbrella apparatus by providing the solar energy system carried by a housing mounted on the pole portion as taught by Benton.

Claims 2 and 3 are hereby cancelled. However, the Applicant hereby reserves the right to file continuation applications to pursue Claims 2 and 3.

**Allowable Subject Matter:**

Claims 5-12 and 15 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 16-20 are allowed.

The Applicant appreciates the Examiner's indication of allowability of Claims 5-12 and 15, and allowance of Claims 16-20.

Claims 5, 6, and 10 are hereby amended by rewriting them as independent claims with all of the limitations of Claim 1. Claim 15 is hereby amended by rewriting it as an independent claim with all of the limitations of Claims 1 and 13. The Applicant submits that Claims 5, 6, and 10, as amended, are now in condition for allowance. Therefore, the Applicant respectfully requests that Claims 5, 6, and 10 be allowed.

Claims 7-9 and 11 are not hereby amended. However, Claims 7-9 and 11 are dependent claims based upon allowable independent claims. As such, the Applicant submits that Claims 7-9 and 11 are allowable. Therefore, the Applicant respectfully requests that Claims 7-9 and 11 be allowed.

**CONCLUSION**

The subject application now contains five independent claims. Therefore, enclosed is a check in the amount of \$84.00 to cover the cost of two independent claims in excess of three (2 x \$42.00). No other fees are deemed to be necessary; however, the undersigned hereby authorizes the Commissioner to charge any fees that are necessary, or credit any overpayments, to Deposit Account No. 50-1060.

Respectfully submitted,

Date 2/17/03

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ATTORNEYS FOR APPLICANT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0638MH-40982-US

In re Application of:

**GREGORY G. KUELBS**

Serial No. 10/068,424

Filed: 7 FEBRUARY 2002

For: **UMBRELLA APPARATUS**

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Examiner: **SAWHNEY, HARGOBIND S.**

Art Unit: 2875

CLEAN VERSION OF THE AMENDED CLAIMS

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

The following is a clean version of claims as amended by Applicant's Amendment A filed herewith.

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TECHNOLOGY CENTER 2900

<b>CERTIFICATE OF MAILING</b> 37 C.F.R. § 1.8(a)	
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail service with sufficient postage under 37 C.F.R. § 1.8(a) on the date indicated below and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.	
Date of Deposit: <u>2/17/03</u>	By: <u>Janis E. Walther</u>



1. (Hereby Cancelled).
2. (Hereby Cancelled).
3. (Hereby Cancelled).
4. (Hereby Cancelled).

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5. (Once Amended) An umbrella apparatus comprising:  
a base support portion;  
a pole portion coupled to the base support portion;  
a canopy portion hingedly coupled to the pole portion;  
a rechargeable electrical power system for providing electrical power to the umbrella apparatus;  
*al cont.* a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
and  
an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet.

6. (Once Amended) An umbrella apparatus comprising:  
a base support portion;  
a pole portion coupled to the base support portion;  
a canopy portion hingedly coupled to the pole portion;  
a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system.

01 7. **(Not Amended)** The umbrella apparatus according to claim 6, wherein the lighting system comprises:

- a plurality of rib members coupled to the canopy portion; and
- a plurality of cold cathode tube elements carried by the rib members, each cold cathode tube element being conductively coupled to and powered by the rechargeable electrical power source.

8. **(Not Amended)** The umbrella apparatus according to claim 6, wherein the lighting system comprises:

- a plurality of rib members coupled to the canopy portion; and
- a plurality of light emitting diode elements carried by the rib members, each light emitting diode element being conductively coupled to and powered by the rechargeable electrical power source.

9. **(Not Amended)** The umbrella apparatus according to claim 6, wherein the lighting system comprises:

- a plurality of rib members coupled to the canopy portion; and
- a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power source.

10. **(Once Amended)** An umbrella apparatus comprising:  
a base support portion;  
a pole portion coupled to the base support portion;  
a canopy portion hingedly coupled to the pole portion;  
a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

an electromechanical opening and closing system for opening and closing the canopy portion, the electromechanical opening and closing system being conductively coupled to and powered by the rechargeable electrical power system.

11. **(Not Amended)** The umbrella apparatus according to claim 10, wherein the electromechanical opening and closing system comprises:  
an electric motor carried by the pole portion;  
a control system for controlling the electric motor;  
a gear system coupled to the electric motor; and  
a cable and pulley system coupled to the gear system and the canopy portion;  
wherein the opening and closing of the canopy portion is achieved by the electric motor in response to selective operation of the control system.

12. **(Once Amended)** The umbrella apparatus according to claim 11, wherein the control system comprises:  
a receiver conductively coupled to the electric motor;  
a remote transmitter for transmitting an encoded signal to the receiver; and  
a decoder conductively coupled to the receiver for decoding the encoded signal  
from the transmitter.

13. (Hereby Cancelled).

14. (Hereby Cancelled).

15. (Once Amended) An umbrella apparatus comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

a cooling system carried by the canopy portion, the cooling system being conductively coupled to and powered by the rechargeable electrical power system, the cooling system comprising;

a fluid reservoir operably associated with the umbrella apparatus;

at least one mist nozzle coupled to the canopy portion, each mist nozzle being in fluid communication with the fluid;

a conduit creating fluid communication between the fluid reservoir and each mist nozzle; and

a pump for pumping the fluid from the reservoir through each mist nozzle.

16. (Allowed) An umbrella apparatus comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

a combination of two or more of the following modular systems:

a lighting system carried by the canopy portion;

an electromechanical opening and closing system for opening and closing the canopy portion; or

a cooling system;

wherein each modular system is configured to be interchanged with each other, each modular system being conductively coupled to and powered by the rechargeable electrical power system.

17. **(Allowed)** The umbrella apparatus according to claim 16, wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion; and

a plurality of cold cathode tube elements carried by the rib members, each cold cathode tube element being conductively coupled to and powered by the rechargeable electrical power source.

18. **(Allowed)** The umbrella apparatus according to claim 16, wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion; and

a plurality of light emitting diode elements carried by the rib members, each light emitting diode element being conductively coupled to and powered by the rechargeable electrical power source.

19. (Allowed) The umbrella apparatus according to claim 16, wherein the cooling system comprises:

- a fluid reservoir operably associated with the umbrella apparatus;
- at least one mist nozzle coupled to the canopy portion, each mist nozzle being in fluid communication with the fluid;
- a conduit creating fluid communication between the fluid reservoir and each mist nozzle; and
- a pump for pumping the fluid from the reservoir through each mist nozzle.

20. (Allowed) The umbrella apparatus according to claim 16, wherein the electromechanical opening and closing system comprises:

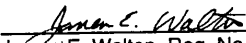
- an electric motor carried by the pole portion;
- a control system for controlling the electric motor;
- a gear system coupled to the electric motor; and
- a cable and pulley system coupled to the gear system and the canopy portion;

wherein the opening and closing of the canopy portion is achieved by the electric motor in response to selective operation of the control system.

Applicant's Amendment A is filed herewith. Enclosed is a check in the amount of \$84.00 to cover the cost of two independent claims in excess of three (2 x \$42.00). No other fees are deemed to be necessary; however, the undersigned hereby authorizes the Commissioner to charge any fees that are necessary, or credit any overpayments, to Deposit Account No. 50-1060.

Respectfully submitted,

Date 2/17/03

  
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ATTORNEYS FOR APPLICANT



#CP 21875

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0638MH-40982-US

In re Application of:

GREGORY G. KUELBS

Serial No. 10/068,424

Filed: 7 FEBRUARY 2002

For: UMBRELLA APPARATUS

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Examiner: SAWHNEY, HARGOBIND S.

Art Unit: 2875

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**TRANSMITTAL**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Please file the following enclosed documents in the subject application:

1. This Transmittal with Certificate of Mailing;
2. Amendment A;
3. Clean Version of the Amended Claims;
4. Our check in the amount of \$84.00 to cover the cost of two independent claims in excess of three (2 x \$42.00); and
5. Our return postcard which we would appreciate you date stamping and returning to us.

<b>CERTIFICATE OF MAILING</b> 37 C.F.R. § 1.8(a)	
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail service with sufficient postage under 37 C.F.R. § 1.8(a) on the date indicated below and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.	
Date of Deposit: <u>2/17/03</u>	By: <u>Jane E. Walters</u>



Enclosed is a check in the amount of \$84.00 to cover the cost of two independent claims in excess of three (2 x \$42.00). No other fees are deemed to be necessary; however, the undersigned hereby authorizes the Commissioner to charge any fees that are necessary, or credit any overpayments, to Deposit Account No. 50-1060.

Respectfully submitted,

2/17/03  
Date

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ATTORNEYS FOR APPLICANT

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/068,424	KUELBS, GREGORY G.	
	Examiner	Art Unit	
	Hargobind S Sawhney	2875	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- This communication is responsive to the amendment filed on February 24, 2003.
- The allowed claim(s) is/are 5-12 and 15-20.
- The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
- Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - All
  - Some\*
  - None of the:
    - Certified copies of the priority documents have been received.
    - Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    - Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_
- Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - The translation of the foreign language provisional application has been received.
- Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

- A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
- CORRECTED DRAWINGS must be submitted.
  - including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - hereto or 2)  to Paper No. \_\_\_\_\_.
  - including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the top margin (not the back) of each sheet. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.
- DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

<input type="checkbox"/> Notice of References Cited (PTO-892)	<input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
<input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	<input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____
<input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____	<input type="checkbox"/> Examiner's Amendment/Comment
<input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material	<input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance
	<input type="checkbox"/> Other

NOTICE OF ALLOWANCE

1. The amendment filed on February 24, 2003 has been entered. Accordingly:
  - Claims 1-4,13 and 14 have been cancelled; and
  - Claims 5,6,10,12 and 15 have been amended

***Allowable Subject Matter***

2. Claims 5-12 and 15-20 are allowed.
3. The following is an examiner's statement of reasons for allowance:

The umbrella apparatus disclosed by the applicant generally comprises:

- a base support portion;
- a pole portion coupled to the base support portion, a canopy portion hingedly coupled to the pole portion, a rechargeable electric power system providing electrical power to the umbrella apparatus;
- a solar energy system carried by the pole portion, and being positioned above the canopy portion for collecting solar energy and converting it into electrical energy;
- the solar energy system being conductively coupled to the rechargeable batteries;
- a cooling system carried by the canopy portion, and electrically coupled to the rechargeable electrical power system; and
- the cooling system powered by electrical power system.

YOT-1003-0171

- the cooling system powered by electrical power system.

The prior art of record, including Mueller et al. (U.S. Patent No. 5,172,711) and Benton (U.S. Patent No. 6,017,188), does not show or suggest the applicant's invention as claimed. Specifically, the prior art of record does not disclose proper motivation for combining:

- a rechargeable electrical power system rechargeable from an AC power outlet as recited in Claim 5;
- a lighting system carried by the canopy portion, and being powered by the rechargeable electrical power source as recited in Claim 6;
- an electromechanical opening and closing the canopy as recited in Claim 10; and
- a cooling system a fluid reservoir, a mist nozzle hydraulically coupled to a pump as recited in Claim 15.

Claims 7-9 are necessarily objected because of their dependency on the objected base Claim 6.

Claim 11 and 12 are necessarily objected because of their dependency on the objected base Claim 10;

Claims 17-20 are necessarily objected because of their dependency on the objected base Claim 16.

Application/Control Number: 10/068,424  
Art Unit: 2875

Page 4

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Conclusion**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hargobind S Sawhney whose telephone number is 703-306-5909. The examiner can normally be reached on 6:15 - 2:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 703-305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318/724 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2956.

HSS

3/17/2003

  
Sandra O'Shea  
Supervisory Patent Examiner  
Technology Center 2800

YOT-1003-0173

10/068424

NOTICE OF DRAFTSPERSON'S PATENT DRAWING REVIEW

The drawing(s) filed (insert date) 2/7/02 are:

A.  approved by the Draftsperson under 37 CFR 1.84 or 1.152.

B.  objected to by the Draftsperson under 37 CFR 1.84 or 1.152 for the reasons indicated below. The Examiner will require submission of new, corrected drawings when necessary. Corrected drawing must be submitted according to the instructions on the back of this notice.

<p>1. DRAWINGS. 37 CFR 1.84(a): Acceptable categories of drawings:          Black ink. Color. <input type="checkbox"/>          Color drawings are not acceptable until petition is granted.          Fig(s) _____          Pencil and non black ink not permitted. Fig(s) _____</p> <p>2. PHOTOGRAPHS. 37 CFR 1.84(h)  <input type="checkbox"/> 1 full-tone set is required. Fig(s) _____  <input type="checkbox"/> Photographs may not be mounted. 37 CFR 1.84(e)  <input type="checkbox"/> Poor quality (half-tone). Fig(s) _____</p> <p>3. TYPE OF PAPER. 37 CFR 1.84(c)  <input type="checkbox"/> Paper not flexible, strong, white, and durable.          Fig(s) _____  <input type="checkbox"/> Erasures, alterations, overwritings, interlineations, folds, copy machine marks not accepted. Fig(s) _____  <input type="checkbox"/> Mylar, velum paper is not acceptable (too thin).          Fig(s) _____</p> <p>4. SIZE OF PAPER. 37 CFR 1.84(i): Acceptable sizes:  <input type="checkbox"/> 21.0 cm by 29.7 cm (DIN size A4)  <input type="checkbox"/> 21.6 cm by 27.9 cm (8 1/2 x 11 inches)  <input type="checkbox"/> All drawing sheets not the same size.          Sheet(s) _____  <input type="checkbox"/> Drawing sheets not an acceptable size. Fig(s) _____</p> <p>5. MARGINS. 37 CFR 1.84(g): Acceptable margins:          Top 2.5 cm Left 2.5cm Right 1.5 cm Bottom 1.0 cm          SIZE: A4 Size          Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm          SIZE: 8 1/2 x 11          Margins not acceptable. Fig(s) _____  <input type="checkbox"/> Top (T) _____ Left (L) _____  <input type="checkbox"/> Right (R) _____ Bottom (B) _____</p> <p>6. VIEWS. 37 CFR 1.84(h)          REMINDER: Specification may require revision to correspond to drawing changes.          Partial views. 37 CFR 1.84(h)(2)  <input type="checkbox"/> Brackets needed to show figure as one entity.          Fig(s) _____  <input type="checkbox"/> Views not labeled separately or properly.          Fig(s) _____  <input type="checkbox"/> Enlarged view not labeled separately or properly.          Fig(s) _____</p> <p>7. SECTIONAL VIEWS. 37 CFR 1.84 (h)(3)  <input type="checkbox"/> Hatching not indicated for sectional portions of an object.          Fig(s) _____  <input type="checkbox"/> Sectional designation should be noted with Arabic or Roman numbers. Fig(s) _____</p>	<p>8. ARRANGEMENT OF VIEWS. 37 CFR 1.84(i)  <input checked="" type="checkbox"/> Words do not appear on a horizontal, left-to-right fashion when page is either upright or turned so that the top becomes the right side, except for graphs. Fig(s) 103005</p> <p>9. SCALE. 37 CFR 1.84(k)  <input type="checkbox"/> Scale not large enough to show mechanism without crowding when drawing is reduced in size to two-thirds in reproduction.          Fig(s) _____</p> <p>10. CHARACTER OF LINES, NUMBERS, &amp; LETTERS. 37 CFR 1.84(i)  <input checked="" type="checkbox"/> Lines, numbers &amp; letters not uniformly thick and well defined, clean, durable, and black (poor line quality).          Fig(s) 103005</p> <p>11. SHADING. 37 CFR 1.84(m)  <input type="checkbox"/> Solid black areas pale. Fig(s) _____  <input type="checkbox"/> Solid black shading not permitted. Fig(s) _____  <input type="checkbox"/> Shaded lines, pale, rough and blurred. Fig(s) _____</p> <p>12. NUMBERS, LETTERS, &amp; REFERENCE CHARACTERS. 37 CFR 1.84(p)  <input checked="" type="checkbox"/> Number and reference characters not plain and legible.          Fig(s) 1-1  <input type="checkbox"/> Figure legends are poor. Fig(s) _____  <input type="checkbox"/> Numbers and reference characters not oriented in the same direction as the view. 37 CFR 1.84(p)(1)          Fig(s) _____  <input type="checkbox"/> English alphabet not used. 37 CFR 1.84(p)(2)          Fig(s) _____  <input type="checkbox"/> Numbers, letters and reference characters must be at least .32 cm (1/8 inch) in height. 37 CFR 1.84(p)(3)          Fig(s) _____</p> <p>13. LEAD LINES. 37 CFR 1.84(q)  <input type="checkbox"/> Lead lines cross each other. Fig(s) _____  <input type="checkbox"/> Lead lines missing. Fig(s) _____</p> <p>14. NUMBERING OF SHEETS OF DRAWINGS. 37 CFR 1.84(t)  <input type="checkbox"/> Sheets not numbered consecutively, and in Arabic numerals beginning with number 1. Sheet(s) _____</p> <p>15. NUMBERING OF VIEWS. 37 CFR 1.84(u)  <input type="checkbox"/> Views not numbered consecutively, and in Arabic numerals, beginning with number 1. Fig(s) _____</p> <p>16. CORRECTIONS. 37 CFR 1.84(w)  <input type="checkbox"/> Corrections not made from prior PTO-948 dated _____</p> <p>17. DESIGN DRAWINGS. 37 CFR 1.152  <input type="checkbox"/> Surface shading shown not appropriate. Fig(s) _____  <input type="checkbox"/> Solid black shading not used for color contrast.          Fig(s) _____</p>
COMMENTS	

REVIEWER

DATE 3/7/03

TELEPHONE NO.

7033058404

ATTACHMENT TO PAPER NO.

5



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NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 03/20/2003  
James E. Walton  
HILL & HUNN, LLP  
Suite 1440  
201 Main Street  
Fort Worth, TX 76102-3105

EXAMINER	
SAWHNEY, HARGOBIND S	
ART UNIT	CLASS-SUBCLASS
2875	362-102000

DATE MAILED: 03/20/2003

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,424	02/07/2002	Gregory G. Kuelbs	0638MH-40982-US	9580

TITLE OF INVENTION: UMBRELLA APPARATUS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$650	\$0	\$650	06/20/2003

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
- B. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
- B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.
  - Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

**PART B - FEE(S) TRANSMITTAL**

Complete and send this form, together with applicable fee(s), to: **Mail Box ISSUE FEE**  
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**Washington, D.C. 20231**  
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**INSTRUCTIONS:** This form should be used for transmitting the **ISSUE FEE** and **PUBLICATION FEE** (if required). Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

**CURRENT CORRESPONDENCE ADDRESS** (Note: Legibly mark-up with any corrections of use Block 1)  
 7590 03/20/2003

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

James E. Walton  
 HILL & HUNN, LLP  
 Suite 1440  
 201 Main Street  
 Fort Worth, TX 76102-3105

**Certificate of Mailing or Transmission**  
 I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Box Issue Fee address above, or being facsimile transmitted to the USPTO, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,424	02/07/2002	Gregory G. Kuelbs	0638MH-40982-US	9580

TITLE OF INVENTION: UMBRELLA APPARATUS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$650	\$0	\$650	06/20/2003

EXAMINER	ART UNIT	CLASS-SUBCLASS
SAWHNEY, HARGOBIND S	2875	362-102000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).  
 Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
 "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.  
 1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_

**3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)**

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.  
 (A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent)  individual  corporation or other private group entity  government

**4a. The following fee(s) are enclosed:**

- Issue Fee
- Publication Fee
- Advance Order - # of Copies \_\_\_\_\_

**4b. Payment of Fee(s):**

- A check in the amount of the fee(s) is enclosed.
- Payment by credit card. Form PTO-2038 is attached.
- The Commissioner is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

Commissioner for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature) \_\_\_\_\_ (Date) \_\_\_\_\_

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

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YOT-1003-0176

TRANSMIT THIS FORM WITH FEE(S)

PTO/F-84 (REV. 04-02) Approved for use through 01/31/2004. OMB 0651-0033

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE





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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,424	02/07/2002	Gregory G. Kuelbs	0638MH-40982-US	9580
	7590 03/20/2003		EXAMINER	
James E. Walton HILL & HUNN, LLP Suite 1440 201 Main Street Fort Worth, TX 76102-3105			SAWHNEY, HARGOBIND S	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 03/20/2003

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**  
(application filed on or after May 29, 2000)

The patent term adjustment to date is 0 days. If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the term adjustment will be 0 days.

If a continued prosecution application (CPA) was filed in the above-identified application, the filing date that determines patent term adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system. (<http://pair.uspto.gov>)

Any questions regarding the patent term extension or adjustment determination should be directed to the Office of Patent Legal Administration at (703)305-1383.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,424	02/07/2002	Gregory G. Kuelbs	0638MH-40982-US	9580
	7590	03/20/2003	EXAMINER	
James E. Walton HILL & HUNN, LLP Suite 1440 201 Main Street Fort Worth, TX 76102-3105 UNITED STATES			SAWHNEY, HARGOBIND S	
			ART UNIT	PAPER NUMBER
			2875	
			DATE MAILED: 03/20/2003	

Notice of Fee Increase on January 1, 2003

If a reply to a "Notice of Allowance and Fee(s) Due" is filed in the Office on or after January 1, 2003, then the amount due will be higher than that set forth in the "Notice of Allowance and Fee(s) Due" since there will be an increase in fees effective on January 1, 2003. See Revision of Patent and Trademark Fees for Fiscal Year 2003; Final Rule, 67 Fed. Reg. 70847, 70849 (November 27, 2002).

The current fee schedule is accessible from: <http://www.uspto.gov/main/howtofees.htm>.

If the issue fee paid is the amount shown on the "Notice of Allowance and Fee(s) Due," but not the correct amount in view of the fee increase, a "Notice to Pay Balance of Issue Fee" will be mailed to applicant. In order to avoid processing delays associated with mailing of a "Notice to Pay Balance of Issue Fee," if the response to the Notice of Allowance and Fee(s) due form is to be filed on or after January 1, 2003 (or mailed with a certificate of mailing on or after January 1, 2003), the issue fee paid should be the fee that is required at the time the fee is paid. If the issue fee was previously paid, and the response to the "Notice of Allowance and Fee(s) Due" includes a request to apply a previously-paid issue fee to the issue fee now due, then the difference between the issue fee amount at the time the response is filed and the previously paid issue fee should be paid. See Manual of Patent Examining Procedure, Section 1308.01 (Eighth Edition, August 2001).

Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.



#10  
JG

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0638MH-40982-US

In re Application of:

GREGORY G. KUELBS

Serial No. 10/068,424

Filed: 7 FEBRUARY 2002

For: UMBRELLA APPARATUS

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§  
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Examiner: SAWHNEY, HARGOBIND S.

Art Unit: 2875

#6/drawings  
7/17/03  
C.Pai

LETTER TO THE OFFICIAL DRAFTSPERSON

MAIL STOP: ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

Enclosed herewith are 11 sheets of formal drawings for the subject application. These drawings incorporate proposed changes to Figures 2C and 3C, which have been submitted to the Examiner along with an Amendment After Allowance.

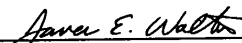
<b>CERTIFICATE OF MAILING</b> 37 C.F.R. § 1.8(a)	
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail service with sufficient postage under 37 C.F.R. § 1.8(a) on the date indicated below and is addressed to Mail Stop: Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.	
Date of Deposit: 6/3/03	By: James E. Walts

DRAWINGS

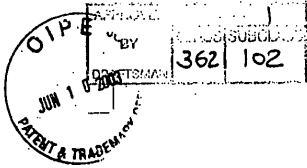
The Issue Fee is paid herewith. No other fees are deemed to be necessary; however, the undersigned hereby authorizes the Commissioner to charge any additional fees that are necessary, and credit any overpayments, to Deposit Account No. 50-1060.

Respectfully submitted,

6/3/03  
Date

  
James E. Walton, Reg. No. 47,245  
Kenneth C. Hill, Reg. No. 29,650  
Melvin A. Hunn, Reg. No. 32,574  
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201 Main Street, Suite 1440  
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(817) 332-2114 (facsimile)  
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[melhunn@hillandhunn.com](mailto:melhunn@hillandhunn.com) (e-mail)

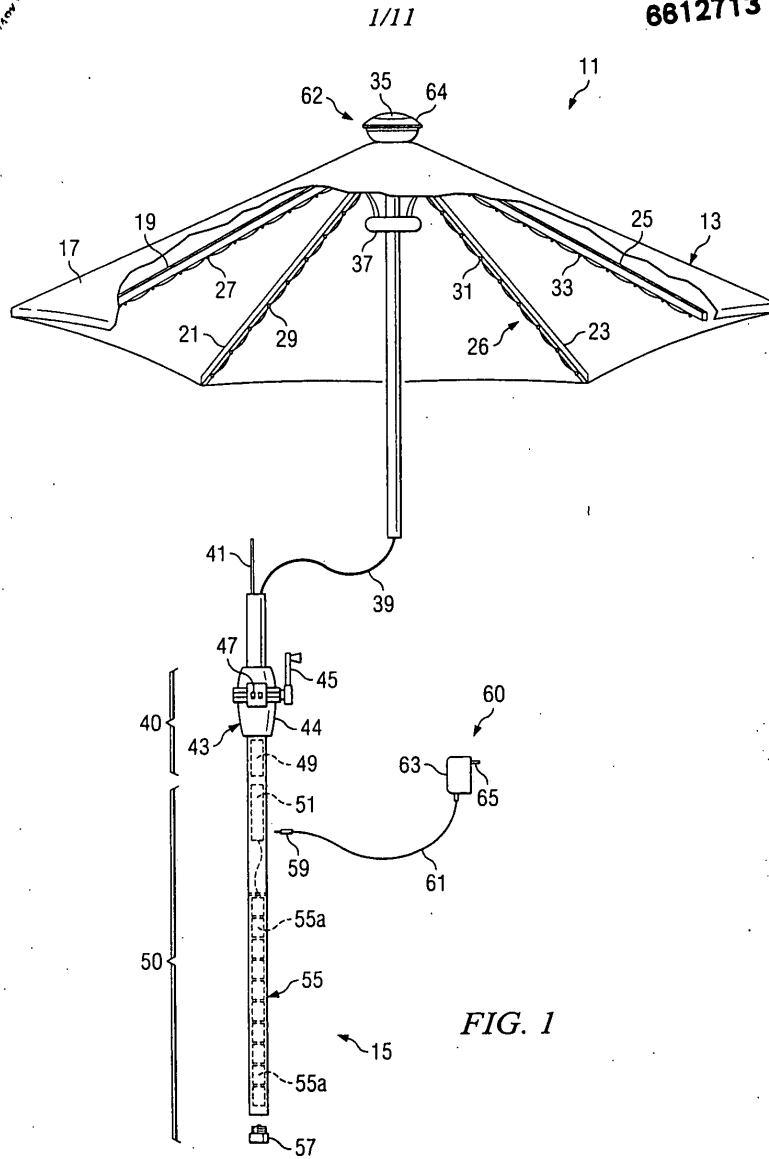
ATTORNEYS FOR APPLICANT



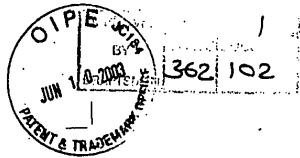
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0638MH-40982-US

2/11

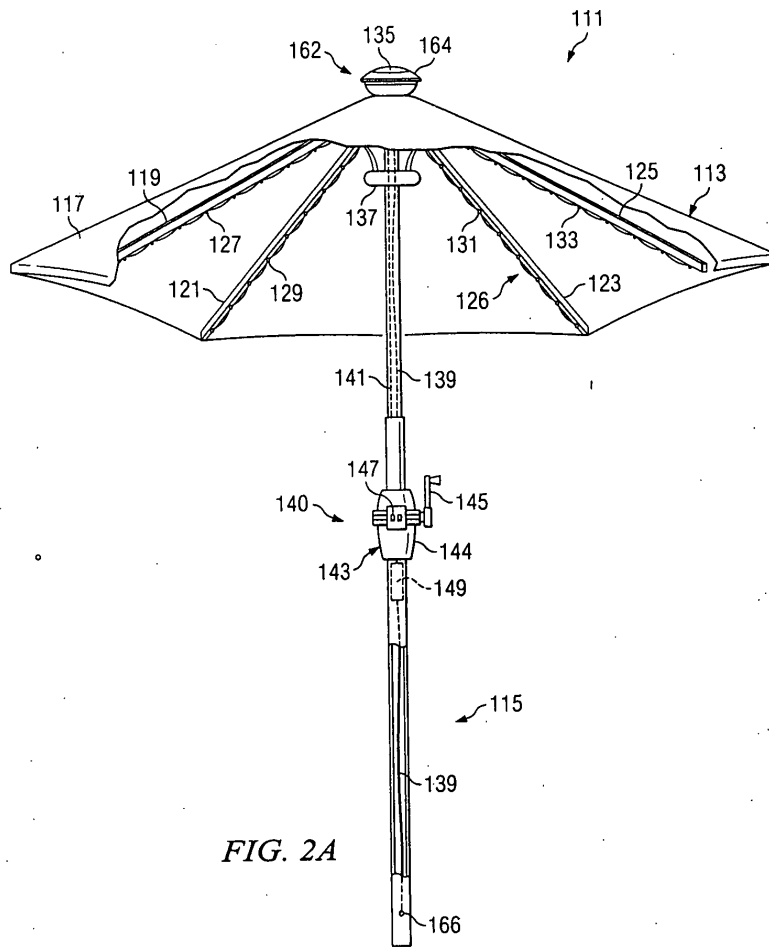
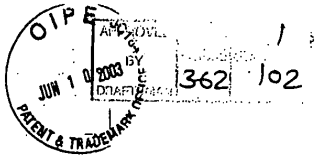


FIG. 2A

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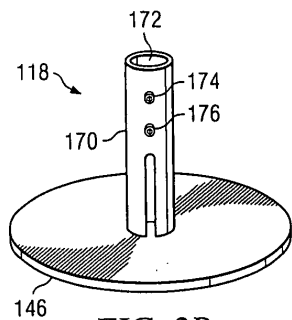


FIG. 2B

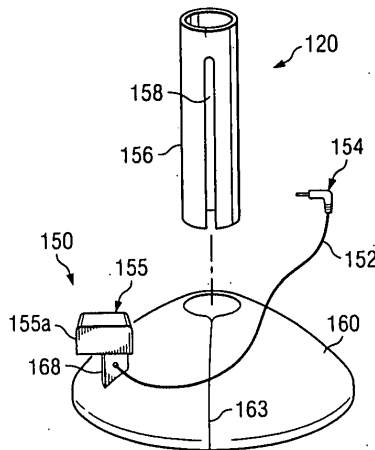


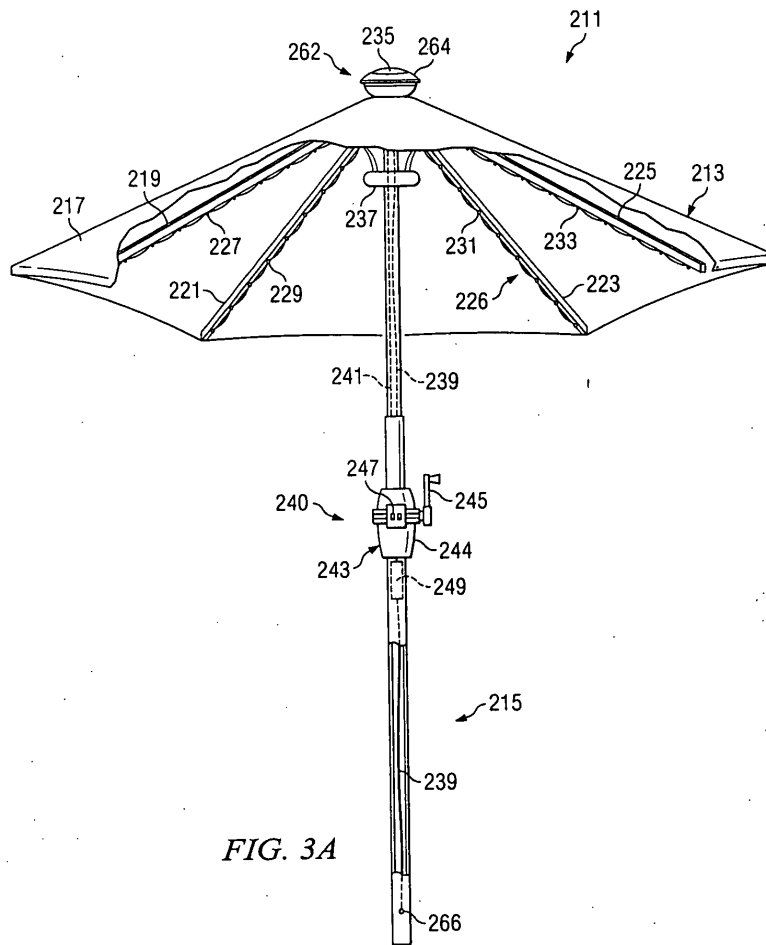
FIG. 2C

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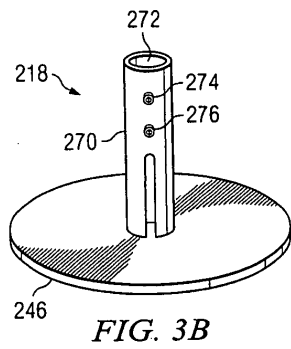


FIG. 3B

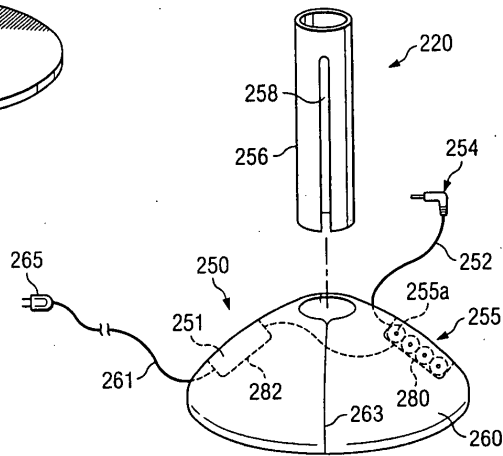


FIG. 3C

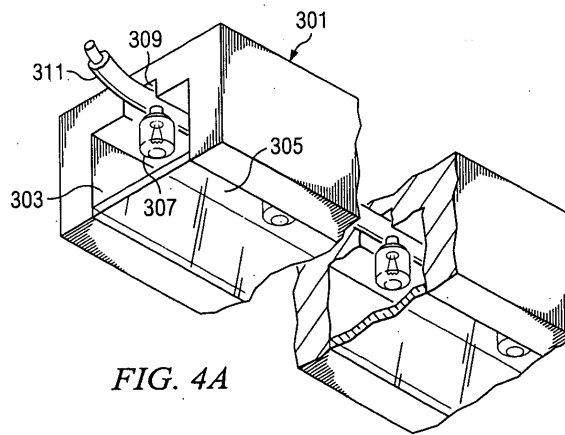


FIG. 4A

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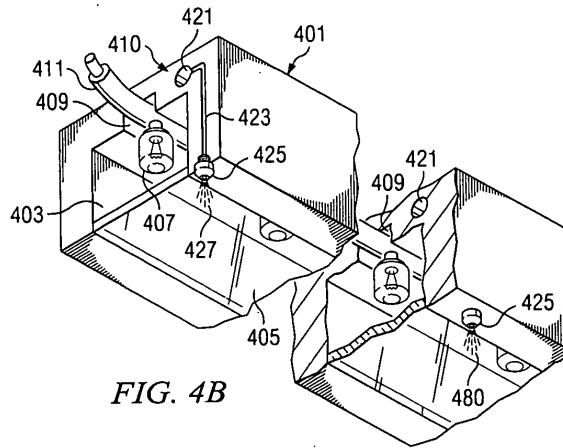


FIG. 4B

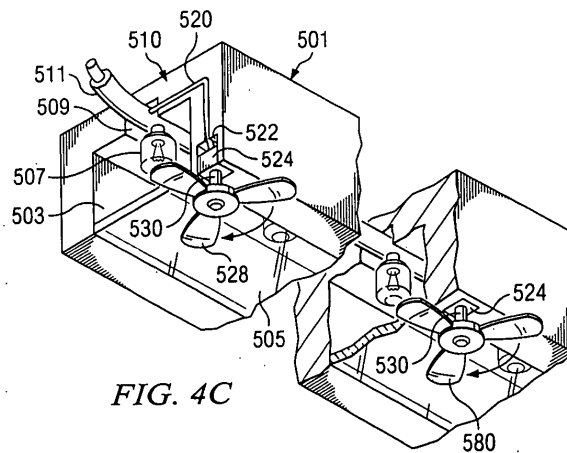


FIG. 4C

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0638MH-40982-US

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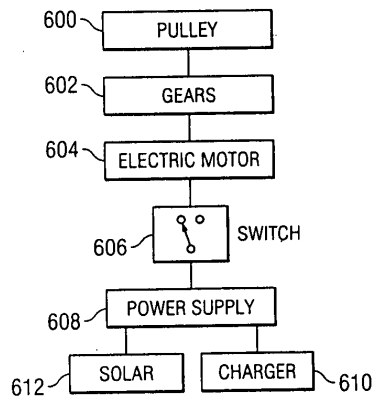


FIG. 5A

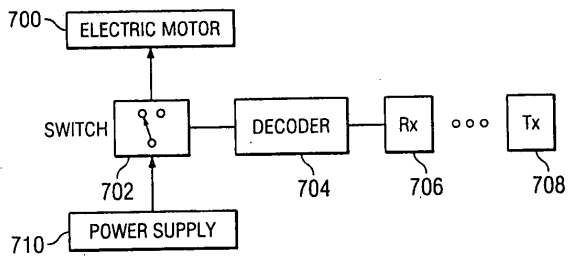
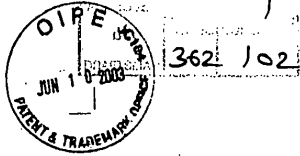


FIG. 5B

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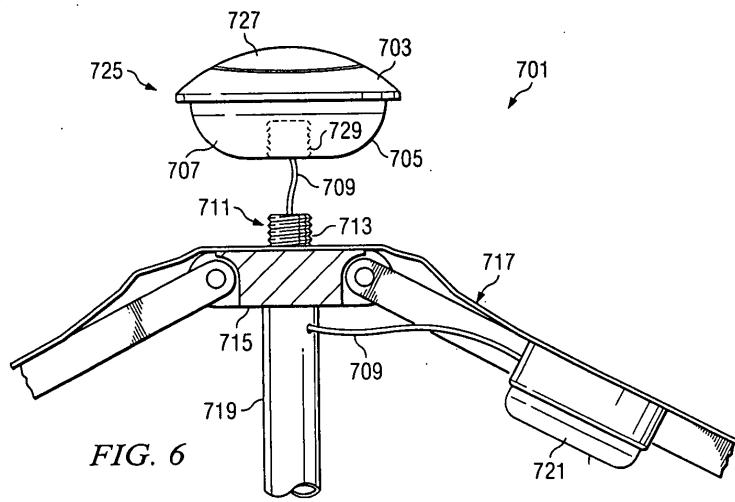


FIG. 6

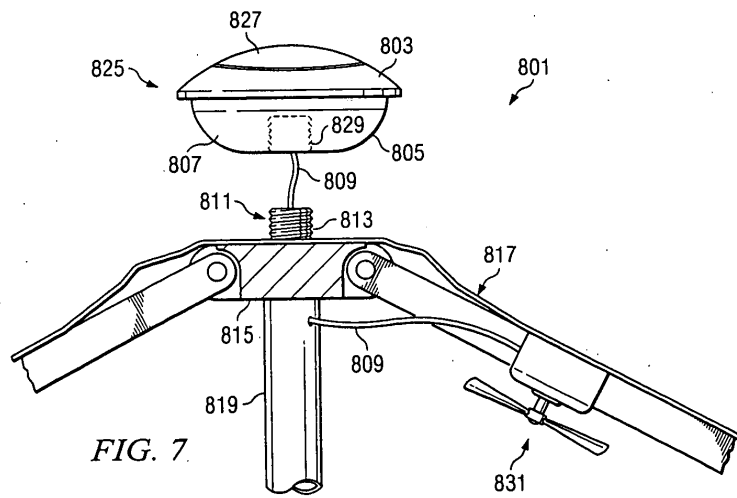
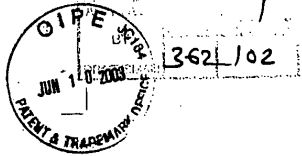


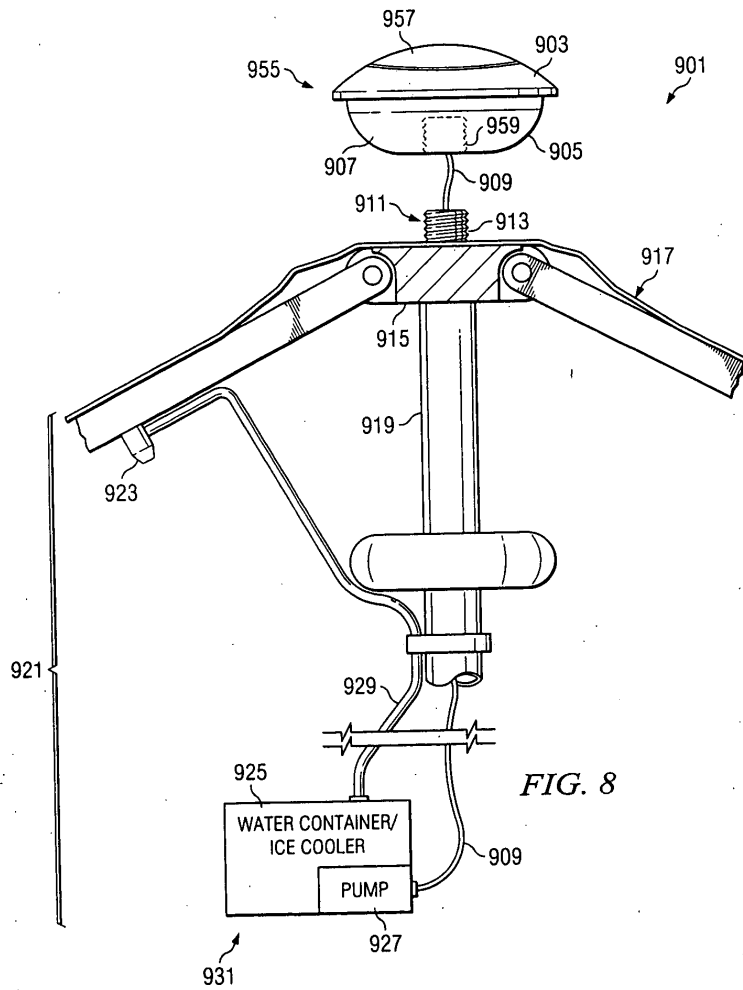
FIG. 7

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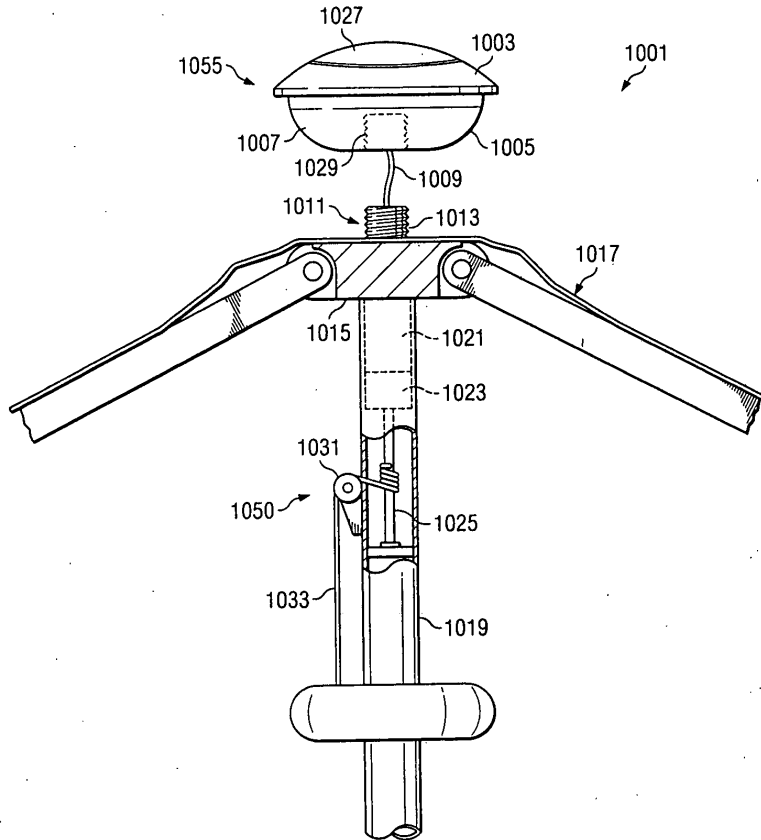


FIG. 9

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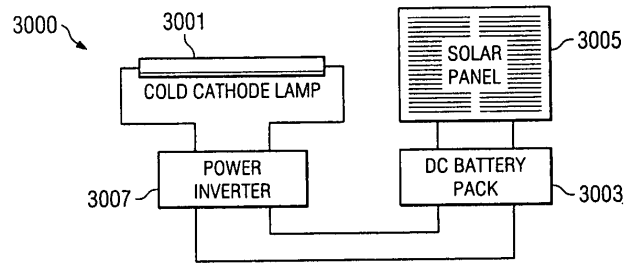


FIG. 10

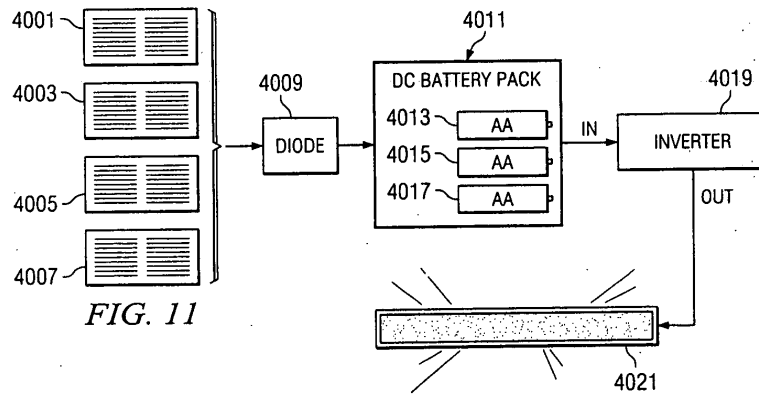


FIG. 11

YOT-1003-0191

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail Box ISSUE FEE**  
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**CURRENT CORRESPONDENCE ADDRESS (PLEASE legibly use an "e" for electronic mail address)**

7590 03/20/2003  
 James E. Walton  
 HILL & HUNN, LLP  
 Suite 1440  
 201 Main Street  
 Fort Worth, TX 76102-3105



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James E. Walton (Depositor's name)  
 James E. Walton (Signature)  
 6/3/03 (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,424	02/07/2002	Gregory G. Kuselka	0638MH-40982-US	9580

TITLE OF INVENTION: UMBRELLA APPARATUS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$650	\$0	\$650	06/20/2003

EXAMINER	ART UNIT	CLASS-SUBCLASS
SAWHNEY, HAROGBIND S	2875	362-102000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).  
 Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
 "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.  
 1 James E. Walton  
 2 Melvin A. Hunn  
 3 Hill & Hunn LLP

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: World Factory, Inc.  
 (B) RESIDENCE (CITY AND STATE OR COUNTRY): Southlake, Texas

Please check the appropriate assignee category or categories (will not be printed on the patent)  Individual  Corporation or other private group entity  government

4a. The following fee(s) are enclosed:

Issue Fee  
 Publication Fee  
 Advance Order - # of Copies 10

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 A check in the amount of the fee(s) is enclosed.  
 Payment by credit card. Form PTO-2038 is attached.  
 The Commissioner is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number 50-1160 (enclose an extra copy of this form).

Commissioner for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature) James E. Walton (Date) 6/3/03  
 Reg. No. 47,245

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AMENDMENT



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7/17/03  
C.P.  
7/24/03*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0638MH-40982-US

In re Application of:  
**GREGORY G. KUELBS**  
Serial No. **10/068,424**  
Filed: **7 FEBRUARY 2002**  
For: **UMBRELLA APPARATUS**

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§  
§

Examiner: **SAWHNEY, HARGOBIND S.**

Art Unit: **2875**

**AMENDMENT AFTER ALLOWANCE UNDER 37 C.F.R. § 1.312**

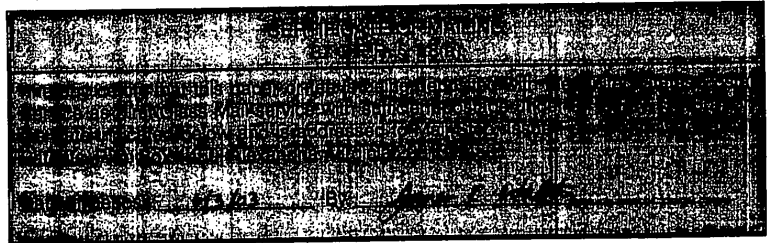
**MAIL STOP: ISSUE FEE**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Watch and Return

Sir:

This Amendment After Allowance is filed to correct a clerical error in the drawings. Part B of Form PTOL-85 is filed herewith along with the Issue Fee.

Please enter the following amendments, consider the following remarks, and issue the subject application.



**IN THE DRAWINGS:**

Please make the following changes in the drawings:

1. In Figure 2C, change reference numeral "162" to ~~163~~.
2. In Figure 3C, change reference numeral "262" to ~~263~~.

Two sheets of drawings with the foregoing proposed changes to Figures 2C and 3C marked in red ink are enclosed herewith.

Also enclosed are 11 sheets of formal drawings in which the foregoing changes to Figures 2C and 3C have been incorporated. Two paragraphs in the Specification are hereby amended to conform to the foregoing changes in the drawings.

The Applicant submits that the following amendments add no new matter to the application. In addition, the Applicant submits that the amendments proposed herein will not cause any undue burden on the Office.

*Approved  
Examiner:  
H. S. [unclear]  
7/23/2003*

**IN THE SPECIFICATION:**

Please enter the following amendments to the Specification:

1. On page 13, line 3, change "162" to ~~163~~.
2. On page 16, line 19, change "262" to ~~263~~.

A Marked-Up Version of the Amended Paragraphs in the Specification in which the foregoing amendments are designated is filed herewith.

The Applicant submits that the following amendments add no new matter to the application. In addition, the Applicant submits that the amendments proposed herein will not cause any undue burden on the Office.

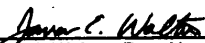
*Approved  
Attorney  
7/23/2003*

**REMARKS**

The Issue Fee is paid herewith. No other fees are deemed to be necessary; however, the undersigned hereby authorizes the Commissioner to charge any additional fees that are necessary, and credit any overpayments, to Deposit Account No. 50-1060.

Respectfully submitted,

Date 6/3/03

  
James E. Walton, Reg. No. 47,245  
Kenneth C. Hill, Reg. No. 29,850  
Melvin A. Hunn, Reg. No. 32,574  
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[kenhill@hillandhunn.com](mailto:kenhill@hillandhunn.com) (e-mail)  
[melhunn@hillandhunn.com](mailto:melhunn@hillandhunn.com) (e-mail)

ATTORNEYS FOR APPLICANT



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Attorney Docket No. 0638MH-40982-US

In re Application of:

**GREGORY G. KUELBS**

Serial No. 10/068,424

Filed: 7 FEBRUARY 2002

For: **UMBRELLA APPARATUS**

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Examiner: **SAWHNEY, HARGOBIND S.**

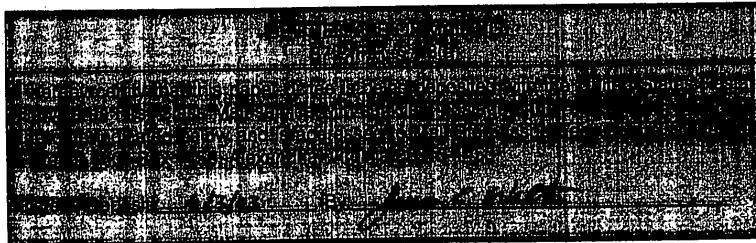
Art Unit: 2875

**MARKED-UP VERSIONS OF THE AMENDED PARAGRAPHS IN THE SPECIFICATION**

**MAIL STOP: ISSUE FEE**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

This Marked-Up Versions of the Amended Paragraphs in the Specification corresponds to the amendments proposed in Applicant's Amendment After Allowance, which is filed herewith. Part B of Form PTOL-85 is filed herewith along with the Issue Fee.



**IN THE SPECIFICATION:**

1. On page 13, line 3, change "162" to ~~163~~.

Base portion 120 includes a removable cylindrical sleeve 156, a removable cover 160, and a receiver 168. Sleeve 156 is configured to slip over the exterior of shaft portion 170, and includes a longitudinal slot 158 that allows access to screw clamps 174 and 176 when sleeve 156 is placed over shaft portion 170. Slot 158 also allows access to a connector 166 disposed in the lower portion of pole portion 115 when sleeve 156 is placed over shaft portion 170. Connector 166 is conductively coupled to the wires from alternate power system charger 162 and solar cells 135. Cover 160 is preferably concave in shape, thereby defining an interior space which may be used to house the electronics (not shown) of power system 150. Cover 160 may include one or more seams [162] ~~163~~ that allow access to the interior space defined by cover 160. Receiver 168 releasably receives battery pack 155a. A wire 152 and plug 154 conductively couple battery pack 155a to connector 166, thereby providing an electrical circuit between rechargeable battery pack 155a and light strands 119, 121, 123, and 125 of lighting system 126.

*Approved  
7/23/2002*

2. On page 16, line 19, change "262" to ~~263~~.

Base portion 220 includes a removable cylindrical sleeve 256, a removable cover 260, and recessed portions 280 and 282. Sleeve 256 is configured to slip over the exterior of shaft portion 270, and includes a longitudinal slot 258 that allows access to screw clamps 274 and 276 when sleeve 256 is placed over shaft portion 270. Slot 258 also allows access to a connector 266 disposed in the lower portion of pole portion 215 when sleeve 256 is placed over shaft portion 270. Connector 266 is conductively coupled to the wires from alternate power system charger 262 and solar cells 235. Cover 260 is preferably concave in shape, thereby defining an interior space which may be used to house the electronics (not shown) of power system 250. Cover 260 may include one or more seams [262] ~~263~~ that allow access to the interior space defined by cover 260. Recessed portion 280 releasably receives batteries 255a, and recessed portion 282 releasably receives external power system charger 251. A wire 252 and plug 254 conductively couple batteries 255a to connector 266, thereby providing an electrical circuit between rechargeable batteries 255a and light strands 219, 221, 223, and 225 of lighting system 226.

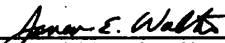
*Approved  
D. S. Sweeney  
7/12/2003*

**REMARKS**

The Issue Fee is paid herewith. No other fees are deemed to be necessary; however, the undersigned hereby authorizes the Commissioner to charge any additional fees that are necessary, and credit any overpayments, to Deposit Account No. 50-1060.

Respectfully submitted,

Date 6/3/03

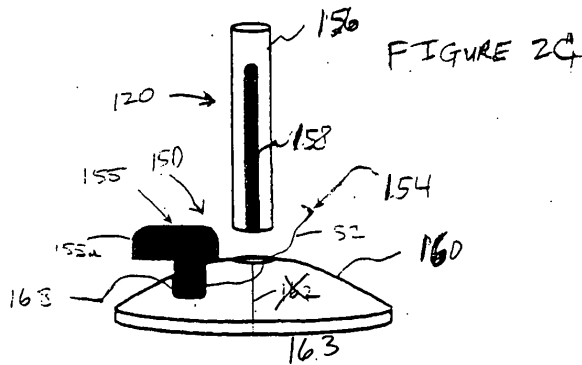
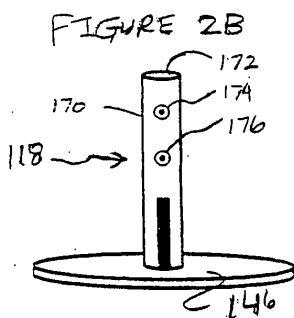
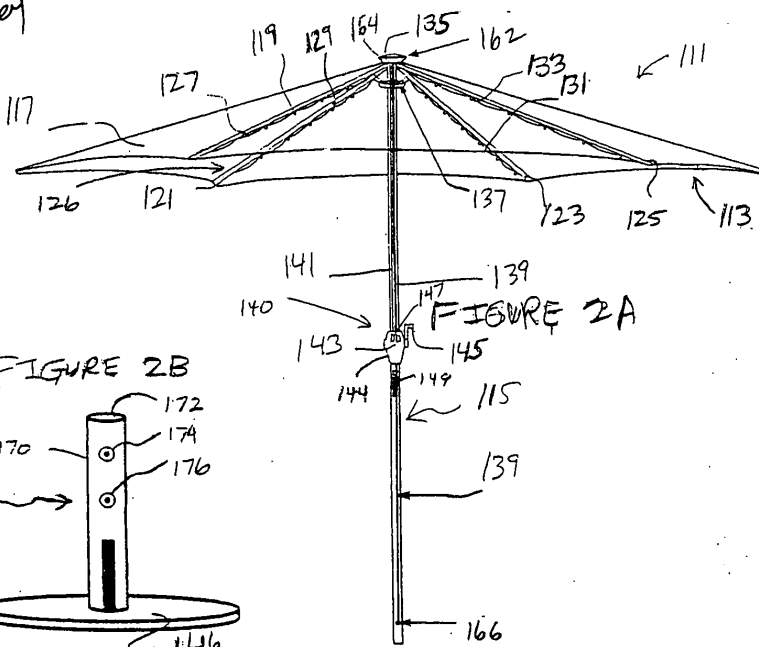
  
James E. Walton, Reg. No. 47,245  
Kenneth C. Hill, Reg. No. 29,650  
Melvin A. Hunn, Reg. No. 32,574  
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[melhunn@hillandhunn.com](mailto:melhunn@hillandhunn.com) (e-mail)

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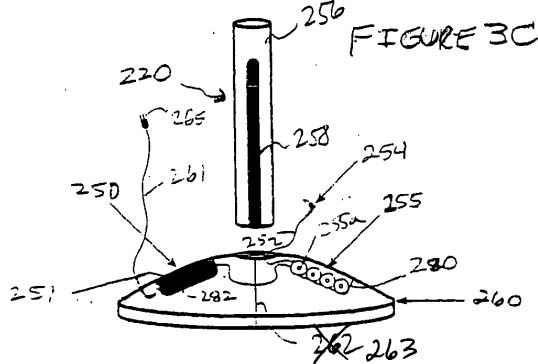
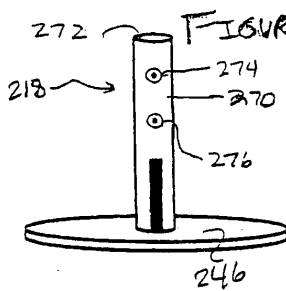
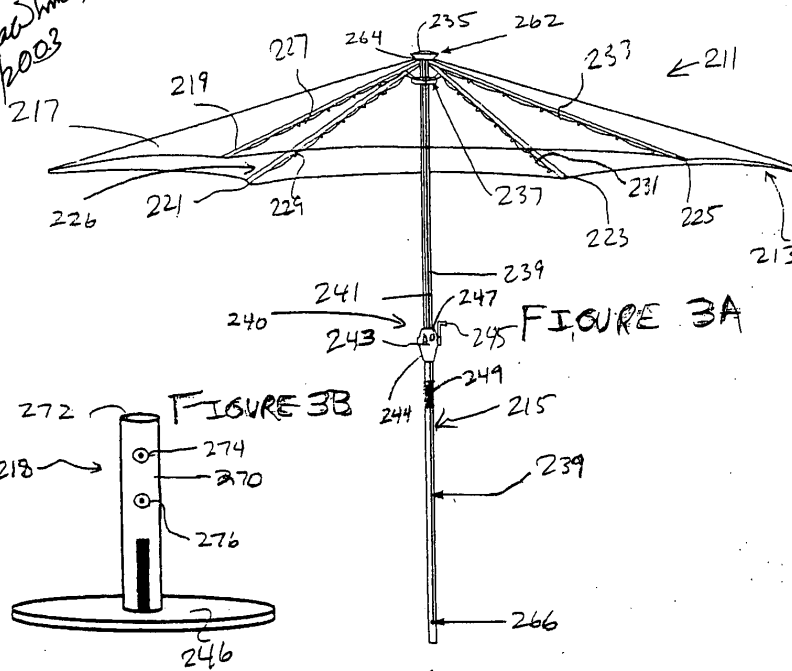
Approved  
*[Signature]*  
 7/23/03



YOT-1003-0201



*Approved  
Sawhney  
7/23/2003*



YOT-1003-0202



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OFFICE ACTION

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,424	02/07/2002	Gregory G. Kuelbs	0638MH-40982-US	9580

7590 07/28/2003  
James E. Walton  
HILL & HUNN, LLP  
Suite 1440  
201 Main Street  
Fort Worth, TX 76102-3105

EXAMINER

SAWHNEY, HARGOBIND S

ART UNIT PAPER NUMBER

2875

DATE MAILED: 07/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Response to Rule 312 Communication</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/068,424	KUELBS, GREGORY G.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Hargobind S Sawhney	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1.  The amendment filed on 10 June 2003 under 37 CFR 1.312 has been considered, and has been:

a)  entered.

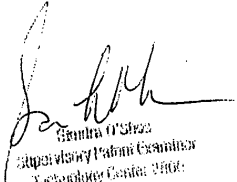
b)  entered as directed to matters of form not affecting the scope of the invention.

c)  disapproved because the amendment was filed after the payment of the issue fee.  
Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

d)  disapproved. See explanation below.

e)  entered in part. See explanation below.

*The requested changes in figures 2C and 3C, and in pages 13 and 16 of the specification have been entered as these changes do not affect the scope of the invention. Further, the requested changes do not add new matter.*

  
Sandra W. Stone  
Supervisory Patent Examiner  
Technology Center 2100

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- 1 -

Multifunction solar parasol.

The present invention relates to a multifunction solar parasol comprising:

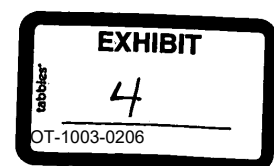
- a frame composed of a hollow mast, multiple stays and a base;
- a canopy composed of perforated fabric, or unperforated and impermeable fabric, attached to the stays;
- at least one cord and one pulley for opening the canopy;
- at least one solar collector for supplying power, via at least one rechargeable battery, to different accessories with which it can be equipped: lights, diffuser for perfume or insect repellent, alarm, musical device;
- a tubular housing inside the mast to receive the accessories.

During daylight, the solar collector(s), positioned on the upper part of the canopy of the parasol, recharge(s) the battery or batteries concealed in the base, which makes it possible for the user to have an independent source of energy for supplying power to the different accessories with which said parasol can be equipped, so that it can be used by day as a parasol and by night as a self-powered standing lamp for places such as: camp sites, gardens or the deck of swimming pools where electric power is generally not supplied.

The invention will be better understood from the following description of one form of embodiment, given by way of non-limiting example, with reference to the attached drawings in which:

Figure 1 is a general view of a parasol according to the invention.

Figure 2 is an enlarged view of the central part of said parasol.



- 2 -

Represented in Figure 1 is a parasol 1 comprising: a hollow mast 9 having a housing 10 composed of a connecting tube made of metal, PVC, synthetic fiber, provided with openings 11, suitable for housing, without hindering control of the canopy 8, accessories such as: a diffuser for perfume or insect repellent, alarm, musical device; a canopy 8 composed either of perforated fabric (such as Estoril or ventilated Batyline) allowing the wind to pass through to prevent overturning, or by an impermeable unperforated fabric having a valence 23, held at the end of each stay 15 by supports 24, constituting a peripheral gutter having an anti-overflow return 26 and an opening for draining off said water that can be connected to a flexible drain pipe, not shown; stays 15 to which the canopy 8 is attached; a solar collector 2, covering all or only part of the canopy 8, supplying power to the batteries 3 housed in an appropriate ballast base 4 provided with openings 5 for seating said rechargeable batteries; a cord 6 and a pulley 7 for controlling the canopy 8; a power cord 14 for connecting to another source of energy; a light 12 equipped with a ventilated protective tube 13 (perforated metal, screen, Plexiglas, glass, translucent or colored sleeve); a light 25 incorporated in the base 4.

Represented in Figure 2 is a parasol 1; the housing 10 having openings 11 for the accessories; a light 12 provided with ventilation holes 16 to prevent overheating, and a holder for electrical equipment 17; a cord 6 and a pulley 7 for controlling the canopy; a pin 18 for locking the hub 20 housed in a transverse guide 21 located in the mast 9 and designed to protect the electric wires 22 when said pin is inserted and withdrawn.

- 3 -

The parasol can be constructed in a normal size with a single frame, for example for family use, or in a size suitable for commercial use, such as for the terrace of a bar or an exhibition display, using an appropriate number of frames. In a second form of embodiment the canopies 8 of the different frames are assembled to form a unit of a desired shape.



- 4 -

Claims

1 - Multifunction solar parasol, which can be used by day as a parasol and by night as a standing lamp, comprising a hollow mast (9), stays (15), a canopy (8), a ballast base (5 [sic]), characterized in that it includes at least one solar collector (2) covering all or only part of the canopy (8), supplying power, via at least one rechargeable battery (3) housed in the base (4), to lights (12) and (25) as well as to such accessories as: a diffuser for perfume or insect repellent, alarm, musical device; a tubular housing (10) suitable for receiving said accessories; at least one cord (6) and one pulley (7) for opening the canopy (8).

2 - Parasol according to claim 1, characterized in that the canopy (8) is composed of a perforated fabric allowing the wind to pass through to prevent it from being overturned.

3 - Parasol according to claim 1, characterized in that the impermeable non-perforated fabric comprising the canopy (8) has a valence (23), held at the end of each stay (15) by supports (24), constituting a peripheral gutter having an anti-overflow return (26) and an opening for draining off said water that can be connected to a flexible drain pipe.

4 - Parasol according to claim 1, characterized in that the base (4) is provided with at least one opening (5) for the seating of the batteries (3).

5 - Parasol according to claim 1, characterized in that the base (4) has a light (25) incorporated into it.

6 - Parasol according to claim 1, characterized by the fact that the hollow mast (9) has a transverse guide (21) designed to protect the electric wires (22) when the pin (18) that locks the hub (20) is inserted and withdrawn.

- 5 -

7 - Parasol according to claim 1, characterized by the fact that the light (12) has ventilation holes (16) to prevent overheating.

8 - Parasol according to claim 1, characterized by the fact that the housing (10) is provided with openings (11) to allow the use of accessories such as: a diffuser for perfume or insect repellent, alarm, musical device.

PCT

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(51) Classification internationale des brevets <sup>5</sup> : A45B 23/00, 3/00, 3/04 A45B 25/22, 25/28	A1	(11) Numéro de publication internationale: <b>WO 93/00840</b> (43) Date de publication internationale: 21 janvier 1993 (21.01.93)
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(21) Numéro de la demande internationale: PCT/FR92/00638 (22) Date de dépôt international: 6 juillet 1992 (06.07.92) (30) Données relatives à la priorité: 91/08781 8 juillet 1991 (08.07.91) FR (71)(72) Déposants et inventeurs: PERRIER, Noël [FR/FR]; 9, rue Paul-Bousquet, F-34200 Sète (FR). SOUCHKO, Alexandre [FR/FR]; Rue du Dauphiné, Résidence Constellation, F-34200 Sète (FR). (74) Mandataire: SCHMITT, John; Cabinet John Schmitt, 9, rue Pizay, F-69001 Lyon (FR).	(81) Etats désignés: HU, US, brevet européen (AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE).  Publiée <i>Avec rapport de recherche internationale.</i>
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(54) Title: MULTIFUNCTION SOLAR PARASOL

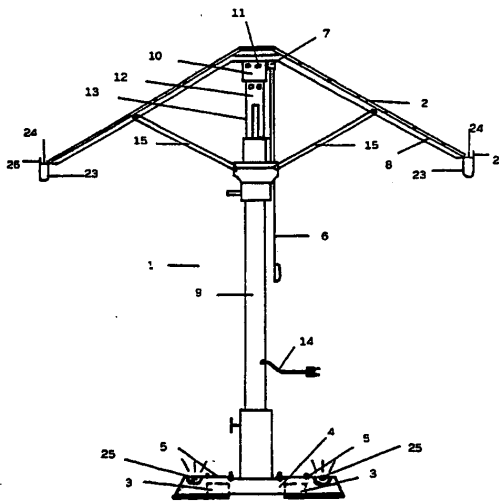
(54) Titre: PARASOL SOLAIRE MULTI-FONCTIONS

(57) Abstract

A parasol (1) comprising a solar collector (2) for supplying power, via rechargeable batteries (3) housed in its base (4), to accessories such as a diffuser for perfume or insect repellent, a musical device, an alarm, etc. placed in a housing (10), and a light (12). The parasol further comprises a cord (6) and a pulley (7) for controlling the canopy (8).

(57) Abrégé

L'invention est relative à un parasol (1) comportant: un capteur solaire (2) destiné à alimenter, via des batteries rechargeables (3) logées dans son socle (4), des accessoires tels que: diffuseur de parfums ou de produits anti-insectes, diffuseur de musique, alarme etc... placés dans un logement (10) ainsi qu'un éclairage (12); un câble (6) et une poulie (7) pour manœuvrer sa couverture (8).



**EXHIBIT**  
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**UNIQUEMENT A TITRE D'INFORMATION**

Codes utilisés pour identifier les États parties au PCT, sur les pages de couverture des brochures publiant des demandes internationales en vertu du PCT.

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DK	Danemark	MC	Monaco		
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- 1 -

Parasol solaire multi-fonctions.

La présente invention concerne un parasol solaire multi-fonctions comprenant :

- une armature constituée d'un mât creux, d'une multitude de baleines et d'un socle ;
- 5       - une couverture constituée par une toile perforée ou non perforée et imperméable, assujettie aux baleines;
- au moins un câble et une poulie permettant d'ouvrir la couverture;
- au moins un capteur solaire destiné à alimenter,
- 10       via au moins une batterie rechargeable, différents accessoires pouvant l'équiper : éclairages, diffuseur de parfums ou de produits anti-insectes, alarme, diffuseur de musique;
- un logement tubulaire interne au mat pour recevoir les accessoires.

- 15       Avec la lumière du jour le ou les capteurs solaires, positionnés sur la partie supérieure de la couverture du parasol, rechargent la ou les batteries, qui sont dissimulées à l'intérieur du socle, ce qui permet à l'utilisateur de disposer d'une source d'énergie autonome pour
- 20       alimenter les différents accessoires pouvant équiper ledit parasol qui peut être de ce fait utilisé de jour comme parasol et de nuit comme lampadaire de façon autonome dans des lieux comme : des campings, jardins ou au bord des piscines qui généralement ne sont pas équipés d'énergie
- 25       électrique.

L'invention sera mieux comprise à la lecture de la description d'un mode de réalisation, donné à titre non limitatif, en référence aux dessins annexés dans lesquels :

- 30       La figure 1 est une vue générale d'un parasol conforme à l'invention.

La figure 2 est une vue agrandie de la partie centrale dudit parasol.

- 2 -

Sur la figure 1 on a représenté un parasol 1 comprenant: un mât creux 9 comportant un logement 10 constitué par un tube de liaison en métal, P V C, fibre synthétique, doté d'ouvertures 11, propre à loger, sans gêner la manoeuvre de la couverture 8, des accessoires tels que : diffuseur de parfums ou de produits anti-insectes, alarme, diffuseur de musique ; une couverture 8 constituée soit par une toile perforée (type Estoril ou Batyligne aéré) laissant passer le vent pour éviter les renversements soit par une toile non perforée imperméable comportant un lambrequin 23, soutenu au droit de chaque baleine 15 par des supports 24, constituant un chéneau périphérique possédant un retour 26 anti-débordement et une ouverture d'évacuation desdites eaux connectable à un conduit souple d'évacuation non représenté; des baleines 15 auxquelles est assujettie la couverture 8 ; un capteur solaire 2, recouvrant en totalité ou en partie seulement la couverture 8, alimentant des batteries 3 logées dans un socle de lestage 4 approprié pourvu d'ouvertures 5 pour le placement desdites batteries rechargeables; un câble 6 et une poulie 7 permettant la manoeuvre de la couverture 8 ; un câble d'alimentation 14 de liaison à une autre source d'énergie ; un éclairage 12 équipé d'un tube protecteur aéré 13 (métal perforé, grille, plexiglas, verre, gaine translucide ou colorée); un éclairage 25 incorporé dans le socle 4.

Sur la figure 2 on a représenté un parasol 1; en 10 le logement comportant des ouvertures 11 pour les accessoires; en 12 l'éclairage pourvu de trous de ventilation 16, évitant les surchauffes, et d'un support d'appareillage électrique 17 ; en 6 le câble et en 7 la poulie de manoeuvre de la couverture : en 18 une goupille d'arrêt de l'articulation 20 logeant dans un guide transversal 21, situé dans le mât 9 et destiné à protéger les câbles électriques 22 lors de la mise et du retrait de ladite goupille.

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- 3 -

Le parasol peut être réalisé, pour une utilisation familiale par exemple, dans une taille normale habituelle avec une seule armature ou pour une utilisation commerciale, par exemple terrasse de bar ou étalage forain, dans  
5 une taille adaptée aux besoins avec un nombre approprié d'armatures. Dans une seconde forme de réalisation les couvertures 8 des différentes armatures sont assemblées pour constituer un ensemble d'une forme souhaitée.

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Revendications

1 - Parasol solaire multi-fonctions, pouvant être utilisé le jour comme parasol et la nuit comme lampadaire, comprenant un mât creux (9), des baleines (15), une couverture (8), un socle de lestage (5), caractérisé en ce qu'il  
5 comporte au moins un capteur solaire (2) recouvrant en totalité ou en partie seulement la couverture (8), alimentant, via au moins une batterie rechargeable (3) logée dans le socle (4), des éclairages (12) et (25) ainsi que des accessoires tels que : diffuseur de parfums ou de  
10 produits anti-insectes, alarme, diffuseur de musique; un logement tubulaire (10) propre à recevoir lesdits accessoires ; au moins un câble (6) et une poulie (7) permettant l'ouverture de la couverture (8).

2 - Parasol suivant la revendication 1, caractérisé  
15 en ce que la couverture (8) est constituée avec une toile perforée laissant passer le vent pour éviter les renversements par ce dernier.

3 - Parasol suivant la revendication 1, caractérisé en ce que la toile non perforée imperméable constituant  
20 la couverture (8) comporte un lambrequin (23), soutenu au droit de chaque baleine (15) par des supports (24), constituant un chéneau périphérique possédant un retour (26) anti-débordement et une ouverture d'évacuation des eaux connectable à un conduit souple d'évacuation.

4 - Parasol suivant la revendication 1, caractérisé  
25 en ce que le socle (4) est pourvu d'au moins une ouverture (5) pour le placement des batteries (3).

5 - Parasol suivant la revendication 1, caractérisé en ce que le socle (4) comporte un éclairage (25) incorporé.

30 6 - Parasol suivant la revendication 1, caractérisé par le fait que le mât creux (9) comporte un guide transversal (21) destiné à protéger les câbles électriques (22) lors de la mise et du retrait de la goupille (18) d'arrêt de l'articulation (20).

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7 - Parasol suivant la revendication 1, caractérisé par le fait que l'éclairage (12) est pourvu de trous de ventilation (16) évitant les surchauffes.

8 - Parasol suivant la revendication 1, caractérisé par le fait que le logement (10) est doté d'ouvertures (11) permettant l'utilisation d'accessoires tels que : diffuseur de parfums ou de produits anti-insectes, alarme, diffuseur de musique.

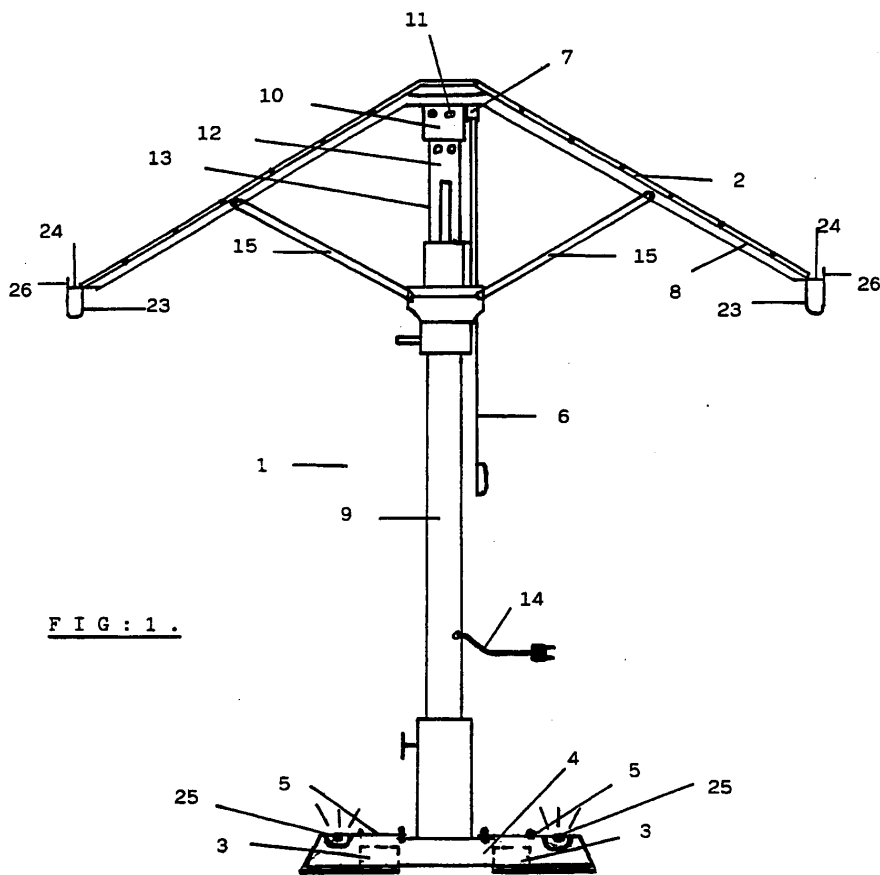


FIG: 1.

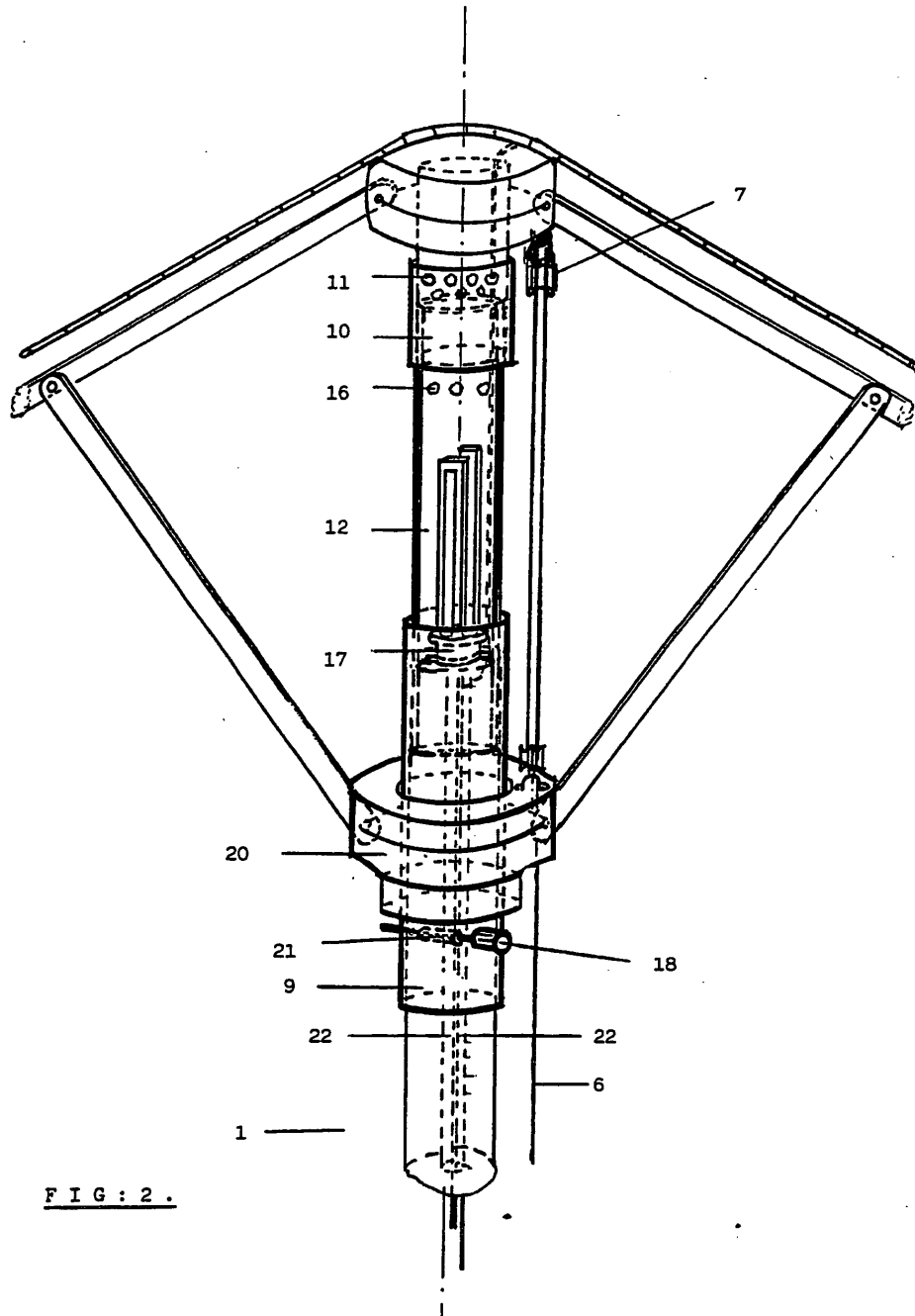


FIG: 2.

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/FR 92/00638

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC5 A45B23/00; A45B3/00; A45B3/04; A45B25/22 A45B25/28 According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC5 A45B Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR,A,2 617 689 (LOUKIL) 13 January 1989 see the whole document	1
A	DE,A,3 642 906 (SCHATTA) 23 June 1988 see the whole document	1
A	US,A,3 227 867 (BAKER) 4 January 1966 see the whole document	1,8
A	US,A,4 567 907 (DUBINSKY) 4 February 1986 see figures 1,2.1,2.2	1
	./.	
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 20 October 1992 (20.10.92)		Date of mailing of the international search report 30 October 1992 (30.10.92)
Name and mailing address of the ISA/ EUROPEAN PATENT OFFICE Facsimile No.		Authorized officer  Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)

YOT-1003-0220

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/FR 92/00638

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR,A,1 326 417 (BENLABED) 10 May 1963 see page 1, left-hand column, line 30 - line 35; figure 2	1,4
A	FR,A,1 246 303 (SOUILHOL) 10 October 1960 see the whole document	2
A	US,A,3 456 661 (FARLEY) 22 July 1969 see figure 5	2
A	GB,A,M4229 (EVANS) 19 September 1912 & GB-A-4229 A.D. 1912 see the whole document	3
A	US,A,1 706 341 (ZUSSMAN) 19 March 1929 see the whole document	3
A	DE,U,8 505 328 (FARAZLY) 16 January 1986	
A	US,A,4 062 371 (BOLEN) 13 December 1977	
A	US,A,3 228 317 (WESTMAN) 11 January 1966	

**ANNEX TO THE INTERNATIONAL SEARCH REPORT  
ON INTERNATIONAL PATENT APPLICATION NO. FR 9200638  
SA 62257**

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information. 20/10/92

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR-A-2617689	13-01-89	None	
DE-A-3642906	23-06-88	None	
US-A-3227867		None	
US-A-4567907	04-02-86	None	
FR-A-1326417		None	
FR-A-1246303		None	
US-A-3456661	22-07-69	None	
GB-A-M4229		None	
US-A-1706341		None	
DE-U-8505328	16-01-86	None	
US-A-4062371	13-12-77	None	
US-A-3228317		None	

EP 0 FORM P0077

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

YOT-1003-0222

**RAPPORT DE RECHERCHE INTERNATIONALE**

PCT/FR 92/00638

Demande internationale No

<b>I. CLASSEMENT DE L'INVENTION</b> (si plusieurs symboles de classification sont applicables, les indiquer tous) <sup>7</sup>		
Selon la classification internationale des brevets (CIB) ou à la fois selon la classification nationale et la CIB		
CIB 5	A45B23/00; A45B25/28	A45B3/00; A45B3/04; A45B25/22
<b>II. DOMAINES SUR LESQUELS LA RECHERCHE A PORTE</b>		
Documentation minimale consultée <sup>8</sup>		
Système de classification	Symboles de classification	
CIB 5	A45B	
Documentation consultée autre que la documentation minimale dans la mesure où de tels documents font partie des domaines sur lesquels la recherche a porté		
<b>III. DOCUMENTS CONSIDERES COMME PERTINENTS</b> <sup>10</sup>		
Catégorie <sup>9</sup>	Identification des documents cités, avec indication, si nécessaire, <sup>12</sup> des passages pertinents <sup>13</sup>	No. des revendications visées <sup>14</sup>
A	FR,A,2 617 689 (LOUKIL) 13 Janvier 1989 voir le document en entier ---	1
A	DE,A,3 642 906 (SCHATTA) 23 Juin 1988 voir le document en entier ---	1
A	US,A,3 227 867 (BAKER) 4 Janvier 1966 voir le document en entier ---	1,8
A	US,A,4 567 907 (DUBINSKY) 4 Février 1986 voir figures 1,2.1,2.2 ---	1
	-/--	
<p><sup>9</sup> Catégories spéciales de documents cités:<sup>11</sup></p> <p>"A" document définissant l'état général de la technique, non considéré comme particulièrement pertinent</p> <p>"E" document antérieur, mais publié à la date de dépôt international ou après cette date</p> <p>"L" document pouvant jeter un doute sur une revendication de priorité ou cité pour déterminer la date de publication d'une autre citation ou pour une raison spéciale (telle qu'indiquée)</p> <p>"O" document se référant à une divulgation orale, à un usage, à une exposition ou tous autres moyens</p> <p>"P" document publié avant la date de dépôt international, mais postérieurement à la date de priorité revendiquée</p> <p>"T" document ultérieur publié postérieurement à la date de dépôt international ou à la date de priorité et n'appartenant pas à l'état de la technique pertinent, mais cité pour comprendre le principe ou la théorie constituant la base de l'invention</p> <p>"X" document particulièrement pertinent; l'invention revendiquée ne peut être considérée comme nouvelle ou comme impliquant une activité inventive</p> <p>"Y" document particulièrement pertinent; l'invention revendiquée ne peut être considérée comme impliquant une activité inventive lorsque le document est associé à un ou plusieurs autres documents de même nature, cette combinaison étant évidente pour une personne du métier.</p> <p>"Z" document qui fait partie de la même famille de brevets</p>		
<b>IV. CERTIFICATION</b>		
Date à laquelle la recherche internationale a été effectivement achevée	20 OCTOBRE 1992	Date d'expédition du présent rapport de recherche internationale
		30. 10. 92
Administration chargée de la recherche internationale	OFFICE EUROPEEN DES BREVETS	Signature du fonctionnaire autorisé
		SIGWALT C.

Formulaire PCT/ISA(710) (modèle simplifié) (Janvier 1983)

YOT-1003-0223

III. DOCUMENTS CONSIDERES COMME PERTINENTS <sup>14</sup>		
(SUITE DES RENSEIGNEMENTS INDIQUES SUR LA DEUXIEME FEUILLE)		
Catégorie <sup>o</sup>	Identification des documents cités, <sup>16</sup> avec indication, si nécessaire des passages pertinents <sup>17</sup>	No. des revendications visées <sup>18</sup>
A	FR,A,1 326 417 (BENLABED) 10 Mai 1963 voir page 1, colonne de gauche, ligne 30 - ligne 35; figure 2	1,4
A	FR,A,1 246 303 (SOUILHOL) 10 Octobre 1960 voir le document en entier	2
A	US,A,3 456 661 (FARLEY) 22 Juillet 1969 voir figure 5	2
A	GB,A,M4229 (EVANS) 19 Septembre 1912 & GB-A-4229 A.D. 1912 voir le document en entier	3
A	US,A,1 706 341 (ZUSSMAN) 19 Mars 1929 voir le document en entier	3
A	DE,U,8 505 328 (FARAZLY) 16 Janvier 1986	
A	US,A,4 062 371 (BOLEN) 13 Décembre 1977	
A	US,A,3 228 317 (WESTMAN) 11 Janvier 1966	

Formulaire PCT/ISA/210 (suite additionnelle) (Octobre 1981)



**ANNEXE AU RAPPORT DE RECHERCHE INTERNATIONALE  
RELATIF A LA DEMANDE INTERNATIONALE NO.**

FR 9200638  
SA 62257

La présente annexe indique les membres de la famille de brevets relatifs aux documents brevets cités dans le rapport de recherche internationale visé ci-dessus.  
Lesdits membres sont contenus au fichier informatique de l'Office européen des brevets à la date du  
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Document brevet cité au rapport de recherche	Date de publication	Membre(s) de la famille de brevet(s)	Date de publication
FR-A-2617689	13-01-89	Aucun	
DE-A-3642906	23-06-88	Aucun	
US-A-3227867		Aucun	
US-A-4567907	04-02-86	Aucun	
FR-A-1326417		Aucun	
FR-A-1246303		Aucun	
US-A-3456661	22-07-69	Aucun	
GB-A-M4229		Aucun	
US-A-1706341		Aucun	
DE-U-8505328	16-01-86	Aucun	
US-A-4062371	13-12-77	Aucun	
US-A-3228317		Aucun	

EP0 FORM 1007Z

Pour tout renseignement concernant cette annexe : voir Journal Officiel de l'Office européen des brevets, No.12/82

YOT-1003-0225



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Bib Data Sheet

CONFIRMATION NO. 5847

<b>SERIAL NUMBER</b> 95/000,104	<b>FILING OR 371(c) DATE</b> 08/12/2005 <b>RULE</b>	<b>CLASS</b> 362	<b>GROUP ART UNIT</b> 3992	<b>ATTORNEY DOCKET NO.</b> 45639-316477	
<b>APPLICANTS</b> 6612713, Residence Not Provided; World Factory Inc.(Owner), Southlake, TX; Robert E. Richards(3rd. Pty. Req.), Atlanta, GA; Southern Sales & Marketing Group Inc.(Real Party In Interest), Atlanta, GA; Robert E. Richards, Atlanta, GA					
** CONTINUING DATA ***** This application is a REX of 10/068,424 02/07/2002 PAT 6,612,713 which claims benefit of 60/267,018 02/07/2001 and claims benefit of 60/335,933 11/02/2001					
** FOREIGN APPLICATIONS *****					
Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no		<b>STATE OR COUNTRY</b>	<b>SHEETS DRAWING</b>	<b>TOTAL CLAIMS</b>	<b>INDEPENDENT CLAIMS</b>
35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance					
Verified and Acknowledged		Examiner's Signature	Initials		
<b>ADDRESS</b> 38441					
<b>TITLE</b> UMBRELLA APPARATUS					
<b>FILING FEE RECEIVED</b>  \$8,800.00	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			<input type="checkbox"/> All Fees	
				<input type="checkbox"/> 1.16 Fees ( Filing )	
				<input type="checkbox"/> 1.17 Fees ( Processing Ext. of time )	
				<input type="checkbox"/> 1.18 Fees ( Issue )	
				<input type="checkbox"/> Other _____	
				<input type="checkbox"/> Credit	

YOT-1003-0226

<b>Application Number</b> 	<b>Application/Control No.</b> 95/000,104	<b>Applicant(s)/Patent under Reexamination</b> 6612713	
	<b>Examiner</b> ***	<b>Art Unit</b> 3992	

**Index of Claims**



Application/Control No.

95/000,104

Examiner

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Applicant(s)/Patent under Reexamination

6612713

Art Unit

3992

√	Rejected
=	Allowed

-	(Through numeral) Cancelled
÷	Restricted


N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claim		Date	
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<b>Issue Classification</b> 	Application/Control No.	Applicant(s)/Patent under Reexamination	
	95/000,104	6612713	
Examiner	Art Unit		
***	3992		

ORIGINAL				CROSS REFERENCE(S)							
CLASS	SUBCLASS			SUBCLASS (ONE SUBCLASS PER BLOCK)							
362	102										
INTERNATIONAL CLASSIFICATION											
		/									
		/									
		/									
		/									
		/									
				(Primary Examiner) (Date)				Total Claims Allowed:			
(Assistant Examiner) (Date)								O.G. Print Claim(s)	O.G. Print Fig.		
		(Legal Instruments Examiner) (Date)									

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant												<input type="checkbox"/> CPA				<input type="checkbox"/> T.D.				<input type="checkbox"/> R.1.47			
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original						
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	28		58		88		118		148		178		208		238		268						
	29		59		89		119		149		179		209		239		269						
	30		60		90		120		150		180		210		240		270						

<b>Reexamination</b> 	<b>Application/Control No.</b> 95/000,104	<b>Applicant(s)/Patent Under Reexamination</b> 6612713
	<b>Certificate Date</b>	<b>Certificate Number</b>

<b>Requester</b> <b>Correspondence Address:</b> <input type="checkbox"/> <b>Patent Owner</b> <input checked="" type="checkbox"/> <b>Third Party</b>
Robert E. Richards KILPATRICK STOCKTON LLP Suite 2800, 1100 Peachtree Street Atlanta, GA 30309

<b>LITIGATION REVIEW</b> <input type="checkbox"/>	(examiner initials)	(date)
Case Name	Director Initials	

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<b>TYPE OF PROCEEDING</b>	<b>NUMBER</b>
1.	
2.	
3.	
4.	

**Search Notes**



Application/Control No.	Applicant(s)/Patent under Reexamination	
95/000,104	6612713	
Examiner	Art Unit	
***	3992	

<b>SEARCHED</b>			
Class	Subclass	Date	Examiner

<b>INTERFERENCE SEARCHED</b>			
Class	Subclass	Date	Examiner

<b>SEARCH NOTES (INCLUDING SEARCH STRATEGY)</b>		
	DATE	EXMR

## Patent Assignment Abstract of Title

**Total Assignments: 1**

**Application #:** 10068424 **Filing Dt:** 02/07/2002 **Patent #:** 6612713 **Issue Dt:** 09/02/2003  
**PCT #:** NONE **Publication #:** NONE **Pub Dt:**  
**Inventor:** Gregory G. Kuelbs  
**Title:** UMBRELLA APPARATUS

**Assignment: 1**

<b>Reel/Frame:</b> <u>012576/0039</u>	<b>Received:</b> 02/20/2002	<b>Recorded:</b> 02/07/2002	<b>Mailed:</b> 04/11/2002	<b>Pages:</b> 2
---------------------------------------	--------------------------------	--------------------------------	------------------------------	--------------------

**Conveyance:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Assignor:** KUELBS, GREGORY G.

**Exec Dt:** 02/07/2002

**Assignee:** WORLD FACTORY, INC.  
280 COMMERCE STREET  
SOUTHLAKE, TEXAS 76092

**Correspondent:** HILL & HUNN LLP  
JAMES E. WALTON  
201 MAIN STREET, SUITE 1440  
FORT WORTH, TEXAS 76102

Search Results as of: 8/15/2005 4:22:18 P.M.

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Web interface last modified: Oct. 5, 2002

YOT-1003-0232





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INTER PARTES REEXAM CONTROL NUMBER	FILING OR 371(c) DATE	PATENT NUMBER
95/000,104	08/12/2005	6612713

Robert E. Richards  
 KILPATRICK STOCKTON LLP  
 Suite 2800, 1100 Peachtree Street  
 Atlanta, GA 30309

Date Mailed: 08/16/2005

**NOTICE OF INTER PARTES REEXAMINATION REQUEST FILING DATE**

Requester is hereby notified that the filing date of the request for *inter partes* reexamination is 08/12/2005, the date the required fee of **\$8800** was received.

A decision on the request for *inter partes* reexamination will be mailed within three months from the filing date of the request for *inter partes* reexamination. (See 37 CFR 1.923.)

A copy of this Notice is being sent to the person identified by the requestor as the patent owner. Further patent owner correspondence will be with the latest attorney or agent of record in the patent file. (See 37 CFR 1.33.) Any paper filed should include a reference to the present request for *inter partes* reexamination (by Reexamination Control Number) and should be addressed to: Mail Stop Inter Partes Reexam, Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.

cc: Patent Owner

38441  
 LAW OFFICES OF JAMES E. WALTON, PLLC  
 1169 N. BURLESON BLVD.  
 SUITE 107-328  
 BURLESON, TX 76028

Legal Instruments Examiner, Office of Patent Legal Administration  
 Central Reexamination Unit 571-272-7705; FAX No. 571-273-0100

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INTER PARTES REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
95/000,104	08/12/2005	6612713

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 SUITE 107-328  
 BURLESON, TX 76028

Date Mailed: 08/16/2005

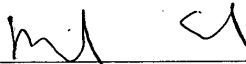
**NOTICE OF ASSIGNMENT OF *INTER PARTES* REEXAMINATION REQUEST**

The above-identified request for *inter partes* reexamination has been assigned to Art Unit 3992. All future correspondence in this proceeding should be identified by the control number listed above and directed to: Mail Stop Inter Partes Reexam, Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.

A copy of this Notice is being sent to the latest attorney or agent of record in the patent file or, if none is of record, to all owners of record. (See 37 CFR 1.33(c).) If the addressee is not, or does not represent, the current owner, he or she is required to forward all communications regarding this proceeding to the current owner(s) (MPEP 2222). An attorney or agent receiving this communication who does not represent the current owner(s) may wish to seek to withdraw pursuant to 37 CFR 1.36 in order to avoid receiving future communications. If the address of the current owner(s) is unknown, this communication should be returned with the request to withdraw pursuant to Section 1.36.

cc: Third Party Requester

Robert E. Richards  
 KILPATRICK STOCKTON LLP  
 Suite 2800, 1100 Peachtree Street  
 Atlanta, GA 30309

  
 Legal Instruments Examiner, Office of Patent Legal Administration  
 Central Reexamination Unit 571-272-7705; FAX No. 571-273-0100

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# STIC Search Report

EIC 2800

STIC Database Tracking Number 165049

**TO: James R Matthews**  
**Location: RND-1C79**  
**Art Unit : 2800**  
**Wednesday, September 07, 2005**

**Case Serial Number: 95/000104**

**From: Darcy Bates**  
**Location: EIC 2800**  
**JEF- 4B68**  
**Phone: 571-272-2540**

**darcy.bates@uspto.gov**

## Search Notes

**Re: 95/000,104 US 6,612,713**

**Attached are search results.**

**Litigation was found. Docket information and citations are attached.**

**If more searching or explanation is needed, please let me know.**

**Thanks,**

**Darcy Bates**



YOT-1003-0235

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	Description	Court	Docket Number	Filed	Date Retrieved
<input type="checkbox"/>		US-DIS-TXND			
<input type="checkbox"/>	World Factory Inc v. Southern Sales and Marketing Group Inc	US-DIS-TXND	<a href="#">4:05cv373</a>	6/13/2005	8/23/2005
<input type="checkbox"/>	World Factory Inc v. Bond Manufacturing Co	US-DIS-TXND	<a href="#">4:05cv374</a>	6/13/2005	8/23/2005

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**Docket**

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**US District Court Civil Docket**

**U.S. District - Texas Northern  
(Fort Worth)**

**4:05cv373**

**World Factory Inc v. Southern Sales And Marketing Group Inc**

This case was retrieved from the court on Tuesday, September 06, 2005

<b>Date Filed:</b> 06/13/2005	<b>Class Code:</b> JURY
<b>Assigned To:</b> John McBryde	<b>Closed:</b> no
<b>Referred To:</b>	<b>Statute:</b> <a href="#">35:145</a>
<b>Nature of suit:</b> Patent (830)	<b>Jury Demand:</b> Plaintiff
<b>Cause:</b> Patent Infringement	<b>Demand Amount:</b> \$0
<b>Lead Docket:</b> None	<b>NOS Description:</b> Patent
<b>Other Docket:</b> None	
<b>Jurisdiction:</b> Federal Question	

**Litigants**

World Factory Inc  
Plaintiff

**Attorneys**

Michael D Anderson  
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Fort Worth , TX 76102-3194  
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Hugh G Connor, II  
[COR LD NTC]

YOT-1003-0237

Kelly Hart & Hallman  
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Marshall M Searcy  
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 USA  
 817/ 332-2500  
 Fax: 817/ 878-9280 Fax  
 Email: Marshall\_searcy@khh.com

Southern Sales And Marketing Group Inc Doing Business  
 as Southern Patio  
 Defendant

**Documents**

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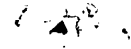
Items 1 to 5 of 5			
Availability	Date	No.	Proceeding Text
Online	06/13/2005	2	CERTIFICATE OF INTERESTED PERSONS/DISCLOSURE STATEMENT by World Factory Inc. (mjw, ) (Entered: 06/14/2005)
Online	06/13/2005	3	Summons Issued as to Southern Sales and Marketing Group Inc. (mjw, ) (Entered: 06/14/2005)
Online	06/13/2005	4	Mailing of Patent and Trademark Infringement Notice to Director in Alexandria VA (mjw, ) (Entered: 06/14/2005)
Online	06/13/2005	5	CIVIL COVER SHEET filed by World Factory Inc. (mjw, ) (Entered: 06/15/2005)
Online	06/14/2005	1	COMPLAINT AND JURY DEMAND against Southern Sales and Marketing Group Inc ( Filing fee \$250; Receipt number 53004), filed by World Factory Inc.(mjw, ) (Entered: 06/14/2005)
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**Docket**

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**US District Court Civil Docket**

**U.S. District - Texas Northern  
(Fort Worth)**

**4:05cv374**

**World Factory Inc v. Bond Manufacturing Co**

This case was retrieved from the court on Tuesday, September 06, 2005

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**Date Filed:** 06/13/2005      **Class Code:** JURY, PATENT  
**Assigned To:** John McBryde      **Closed:** no  
**Referred To:**      **Statute:** 35:145  
**Nature of suit:** Patent (830)      **Jury Demand:** Plaintiff  
**Cause:** Patent Infringement      **Demand Amount:** \$0  
**Lead Docket:** None      **NOS Description:** Patent  
**Other Docket:** None  
**Jurisdiction:** Federal Question

**Litigants**

World Factory Inc  
Plaintiff

**Attorneys**

Michael D Anderson  
[COR LD NTC]  
Kelly Hart & Hallman -Fort Worth  
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Suite 2500  
Fort Worth , TX 76102-3194  
USA  
817/ 332-2500  
Email: Michael\_anderson@khh.com

Hugh G Connor, II  
[COR LD NTC]

Kelly Hart & Hallman  
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 Suite 2500  
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 Email: Hugh\_connor@khh.com

Marshall M Searcy  
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 Suite 2500  
 Fort Worth , TX 76102-3194  
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 Fax: 817/ 878-9280 Fax  
 Email: Marshall\_searcy@khh.com

Bond Manufacturing Co  
 Defendant

**Documents**

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Items 1 to 5 of 5				
	Availability	Date	No.	Proceeding Text
<input type="checkbox"/>	Online	06/13/2005	1	COMPLAINT against Bond Manufacturing Co ( Filing fee \$250; Receipt number 53005), filed by World Factory Inc.(jmb, ) (Entered: 06/14/2005)
<input type="checkbox"/>	Runner	06/13/2005	--	DEMAND for Trial by Jury by World Factory Inc. (jmb, )on face of complaint (Entered: 06/14/2005)
<input type="checkbox"/>	Online	06/13/2005	2	CERTIFICATE OF INTERESTED PERSONS/DISCLOSURE STATEMENT by World Factory Inc. (jmb, ) (Entered: 06/14/2005)
<input type="checkbox"/>	Online	06/14/2005	3	Summons Issued as to Bond Manufacturing Co. (jmb, ) (Entered: 06/14/2005)
<input type="checkbox"/>	Online	06/14/2005	4	NOTICE of patent filing mailed to US Patent and Trademark Office(jmb, ) (Entered: 06/14/2005)

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068424 (10) 6612713 September 2, 2003

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

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September 2, 2003

Umbrella apparatus

**REEXAM-LITIGATE:**

NOTICE OF LITIGATION

World Factory Inc v. Southern Sales and Marketing Group Inc, Filed June 13, 2005, D.C. N.D. Texas, Doc. No. 4:05cv373

NOTICE OF LITIGATION

World Factory Inc v. Bond Manufacturing Co, Filed June 13, 2005, D.C. N.D. Texas, Doc. No. 4:05cv374

**INVENTOR:** Kuelbs, Gregory G. - Westlake, Texas

**APPL-NO:** 068424 (10)

**FILED-DATE:** February 7, 2002

**GRANTED-DATE:** September 2, 2003

**ASSIGNEE-AT-ISSUE:** World Factory, Inc., Southlake, Texas, 02

**ASSIGNEE-AFTER-ISSUE:** February 7, 2002 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., WORLD FACTORY, INC. 280 COMMERCE STREET SOUTHLAKE TEXAS 76092, Reel and Frame Number: 12576/0039

**LEGAL-REP:** Walton, James E.; Hunn, Melvin A.; Hill & Hunn LLP - ##0

**PUB-TYPE:** September 2, 2003 - Utility Patent having no previously published pre-grant publication (B1)

**PUB-COUNTRY:** United States (US)

**REL-DATA:**

Provisional Application Ser. No. 60/335933, November 2, 2001

Provisional Application Ser. No. 60/267018, February 7, 2001

YOT-1003-0241

[http://www.lexis.com/research/retrieve?\\_m=fd052bd126c17e8353fd30e50ce9a698&csvc=bl&cform=bool&...](http://www.lexis.com/research/retrieve?_m=fd052bd126c17e8353fd30e50ce9a698&csvc=bl&cform=bool&...) 9/6/05



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not w/p	not in same paragraph
w/seg	in same segment
not w/seg	not in same segment
w/s	in same sentence
not w/s	not in same sentence
and not	and not

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9/6/05

US 6,612,713

95/000104

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Query/Command : file pluspat

Selected file: PLUSPAT

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Query/Command : us6612713/pn

\*\* SS 7: Results 1

Search statement 8

Query/Command : prt fu legalall max

1 / 1 PLUSPAT - @QUESTEL-ORBIT - image  
PN - US6612713 B1 20030902 [US6612713]  
TI - (B1) Umbrella apparatus  
PA - (B1) WORLD FACTORY INC (US)  
PAO - World Factory, Inc., Southlake TX [US]  
IN - (B1) KUELBS GREGORY G (US)  
AP - US6842402 20020207 [2002US-0068424]  
PR - US6842402 20020207 [2002US-0068424]  
US33593301P 20011102 [2001US-P335933]  
US26701801P 20010207 [2001US-P267018]  
IC - (B1) A45B-023/00  
EC - A45B-003/00  
A45B-003/04  
A45B-025/14A  
F21V-033/00B  
F21V-033/00F4  
F24F-005/00C7  
F24F-005/00F  
PCL - ORIGINAL (O) : 362102000; CROSS-REFERENCE (X) : 362096000  
362209000 362276000  
DT - Basic  
CT - US5126922; US5172711; US5273062; US5349975; US5463536  
STG - (B1) U.S. Patent (no pre-grant pub.) after Jan. 2, 2001  
AB - A lawn or patio umbrella with an integral lighting system that  
utilizes cold cathode ray tubes, light emitting diodes (LED's), or  
florescent lights, to provide relatively bright outdoor light for  
reading and other activities that require relatively high light  
intensities is provided. In one embodiment, a modular,  
electrically powered lawn or patio umbrella in which lighting  
systems, such as those utilizing cold cathode tubes, LED's, or  
florescent lights; cooling systems, such as those utilizing  
electric fans or misting systems; and motorized retraction  
systems; can be selectively interchanged is provided.  
UP - 2003-37

Search statement 8

Query/Command : fam us6612713/pn

STIC EIC 2800

Darcy Bates

272-2450

YOT-1003-0243

9/6/05

US 6,612,713

95/000104

1 Patent Groups  
\*\* SS 8: Results 2

Search statement 9

Query/Command : famstate nonstop

1 / 2 PLUSPAT - @QUESTEL-ORBIT - image  
PN - US2004149325 A1 20040805 [US20040149325]  
STG - (A1) Utility Patent Application published on or after January 2, 2001  
TI - (A1) Umbrella apparatus  
PA - (A1) WORLD FACTORY INC (US)  
PAO - World Factory, Inc., [US]  
IN - (A1) KUELBS GREGORY G (US)  
IC - (A1) A45B-011/00 A45B-017/00 A45B-023/00 A45B-025/00  
AP - US65053703 20030828 [2003US-0650537]  
PR - US65053703 20030828 [2003US-0650537]  
US6842402 20020207 [2002US-0068424]  
US26701801P 20010207 [2001US-P267018]  
US33593301P 20011102 [2001US-P335933]  
EC - A45B-003/00  
A45B-003/04  
A45B-025/14A  
F21V-033/00B  
F21V-033/00F4  
F24F-005/00C7  
F24F-005/00F  
PCL - ORIGINAL (O) : 135020300  
DT - Corresponding document  
UP - 2004-32

2 / 2 PLUSPAT - @QUESTEL-ORBIT - image  
PN - US6612713 B1 20030902 [US6612713]  
STG - (B1) U.S. Patent (no pre-grant pub.) after Jan. 2, 2001  
TI - (B1) Umbrella apparatus  
PA - (B1) WORLD FACTORY INC (US)  
PAO - World Factory, Inc., Southlake TX [US]  
IN - (B1) KUELBS GREGORY G (US)  
IC - (B1) A45B-023/00  
AP - US6842402 20020207 [2002US-0068424]  
PR - US6842402 20020207 [2002US-0068424]  
US33593301P 20011102 [2001US-P335933]  
US26701801P 20010207 [2001US-P267018]  
EC - A45B-003/00  
A45B-003/04  
A45B-025/14A  
F21V-033/00B  
F21V-033/00F4  
F24F-005/00C7  
F24F-005/00F  
PCL - ORIGINAL (O) : 362102000; CROSS-REFERENCE (X) : 362096000  
362209000 362276000  
DT - Basic

STIC EIC 2800

Darcy Bates

272-2450

YOT-1003-0244

9/6/05

US 6,612,713

95/000104

UP - 2003-37

STIC EIC 2800

Darcy Bates

272-2450  
YOT-1003-0245



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pre /N	precedes by N words
w/p	in same paragraph
not w/p	not in same paragraph
w/seg	in same segment
not w/seg	not in same segment
w/s	in same sentence
not w/s	not in same sentence
and not	and not

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<u>and</u>	and
<u>or</u>	or
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<u>w/seg</u>	in same segment
<u>not w/seg</u>	not in same segment
<u>w/s</u>	in same sentence
<u>not w/s</u>	not in same sentence
<u>and not</u>	and not

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w/s	in same sentence
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and not	and not

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YOT-1003-0250

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CONTROL NO.	FILING DATE	PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
95/000,104	08/12/2005	6,612,713	45639-316477

LAW OFFICES OF JAMES E. WALTON, PLLC  
1169 N. Burleson Blvd.  
Suite 107-328  
Burleson, TX 76028

EXAMINER

Margaret Wambach

ART UNIT	PAPER
3992	

DATE MAILED:

09/28/2005

**INTER PARTES REEXAMINATION  
COMMUNICATION**

BELOW/ATTACHED YOU WILL FIND A COMMUNICATION FROM THE UNITED STATES PATENT AND TRADEMARK OFFICE OFFICIAL(S) IN CHARGE OF THE PRESENT REEXAMINATION PROCEEDING.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this communication.



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Robert E. Richards  
KILPATRICK STOCKTON LLP  
Suite 2800, 1100 Peachtree Street  
Atlanta, GA 30309

**Transmittal of Communication to Third Party Requester  
*Inter Partes* Reexamination**

REEXAMINATION CONTROL NUMBER 95/000,104.

PATENT NUMBER 6,612,713.

TECHNOLOGY CENTER 3992.

ART UNIT 3992.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

PTOL-2070 (Rev.07-04)

YOT-1003-0253

<b>OFFICE ACTION IN INTER PARTES REEXAMINATION</b>	Control No.	Patent Under Reexamination	
	95/000,104	6612713	
	Examiner	Art Unit	
	Margaret Wambach	3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Responsive to the communication(s) filed by:

Patent Owner on \_\_\_\_\_

Third Party(ies) on 12 August 2005

**RESPONSE TIMES ARE SET TO EXPIRE AS FOLLOWS:**

*For Patent Owner's Response:*

2 MONTH(S) from the mailing date of this action. 37 CFR 1.945. EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.956.

*For Third Party Requester's Comments on the Patent Owner Response:*

30 DAYS from the date of service of any patent owner's response. 37 CFR 1.947. NO EXTENSIONS OF TIME ARE PERMITTED. 35 U.S.C. 314(b)(2).

**All correspondence** relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

This action is not an Action Closing Prosecution under 37 CFR 1.949, nor is it a Right of Appeal Notice under 37 CFR 1.953.

**PART I. THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

1.  Notice of References Cited by Examiner, PTO-892
2.  Information Disclosure Citation, PTO-1449 or PTO/SB/08
3.  \_\_\_\_\_

**PART II. SUMMARY OF ACTION:**

- 1a.  Claims 1-14 are subject to reexamination.
- 1b.  Claims \_\_\_\_\_ are not subject to reexamination.
2.  Claims \_\_\_\_\_ have been canceled.
3.  Claims 3 and 6-14 are confirmed. [Unamended patent claims]
4.  Claims \_\_\_\_\_ are patentable. [Amended or new claims]
5.  Claims 1,2,4 and 5 are rejected.
6.  Claims \_\_\_\_\_ are objected to.
7.  The drawings filed on \_\_\_\_\_  are acceptable  are not acceptable.
8.  The drawing correction request filed on \_\_\_\_\_ is:  approved.  disapproved.
9.  Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has:
  - been received.  not been received.  been filed in Application/Control No \_\_\_\_\_.
10.  Other \_\_\_\_\_

**Reexamination**

This first Office action on the merits is being mailed together with the order granting reexamination. 37 CFR 1.935.

**Claim Rejections - 35 USC § 103**

This section includes rejections involving four combinations of prior art references: combination I (WO 93/00840 and Valdner, adopted essentially as proposed in the request), combination II (WO 93/00840 and Phyle, adopted essentially as proposed in the request), combination III (Phyle and Valdner, adopted essentially as proposed in the request) and combination IV (WO 93/00840 and Pan et al., a new rejection not proposed in the request) presented in the order listed.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

I.) WO 93/00840 and Valdner

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Valdner.

Referring to Figure 1 of WO 93/00840, an umbrella apparatus (1) comprising:

a base support portion (4);

a pole portion (9) coupled to the base support portion;

a canopy portion (8) coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus (rechargeable batteries 3);

a solar energy system (2) carried by the pole portion above the canopy portion (2 covers at least part of the top of the canopy (8) thus it is above it and, given that it is carried by the canopy, it is also carried by the pole portion (9) which carries the canopy), the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system (by electrical wires 22), such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system (page 2, line 10 of the translation provided by requester); and

an electrical charging system being adapted to receive power from a power outlet (power cord 14).

With regard to the limitation of claim 1 that the canopy portion is "hingedly" coupled to the pole portion, it is noted that a hinge at the apex of umbrella apparatus (1) is not expressly shown in the Figures (although Figure 2 does show some sort of wire or circular member threading through two openings under the umbrella cap) nor expressly



identified in the disclosure of WO 93/00840. Nevertheless, it can be shown that WO 93/00840 does operate in the manner recited in claim 1 and, thus, meets these limitations based on the principle of inherency:

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)

In the instant case, a full reading of the disclosed form and function of WO 93/00840 shows that recitation of a canopy portion hingedly coupled to a pole portion is implicitly taught. That is to say, the movement of WO 93/00840's components described in its disclosure are necessarily arrived upon through the hinged coupling described in claim 1. More particularly, WO 93/00840 discloses that the canopy (8) has associated mechanisms for opening it (page 1, line 6 of the translation provided by the requester.) WO 93/00840 further discloses that the fabric of which canopy 8 is composed (page 2, lines 4 and 5) is attached to stays 15 (page 2, line 9). Stay 15 includes short and long sections. The short section of 15 (labeled in Figure 1) is hinged to a longer section at a midpoint. Although the longer section is not labeled in the Figures, it is implicitly referenced as "15" in claim 3 by the process of elimination. To wit, no other element holds valence (23) and is attached to supports (24.) Even the hinge connecting the two sections of 15 would serve to "hingedly" couple the canopy portion to the pole portion, but, beyond this point, by virtue of the placement of stay 15 against the pole 19, one end of the shorter section of 15 must pivot on the longer section of 15 while its other

end slides down the pole. Such movement necessitates a hinge under the cap at the top of the pole. Additional evidence that umbrella apparatus (1) opens and closes conventionally (via a hinge at its apex) is provided by the disclosure of "a pin 18 for locking the hub 20 housed in a traverse guide 21" (page 2, lines 17 and 18.) Here again we see that hub 20 slides down guide 21 unless locked by pin 18 in the manner of an umbrella closing "hingedly" at a coupling of a canopy portion and a central shaft.

What WO 93/00840 fails to show is an electrical charging system for recharging the rechargeable electrical power system with power from an AC power outlet. Further, although it is most likely that power cord 14 of WO 93/00840 does receive AC power, this point cannot be determined with absolute certainty. These differences are taught by Valdner.

More particularly, Figures 1-8 of Valdner teach an umbrella apparatus (10) including an electrical charging system for recharging a rechargeable electrical power system (column 2, lines 31-44) with power from an AC power outlet (an "electric house wall socket" (column 2, line 41) receives AC power).

To produce the structure recited in claim 1, WO 93/00840 must be altered to incorporate the portion of Valdner's electrical charging system which permits a rechargeable battery to be recharged from either a solar energy system or an AC power outlet. The power cord of WO 93/00840 could be retained if it was compatible with an AC power outlet or else it would be replaced by a cord possessing such compatibility.

Motivation for such a substitution is provided by the increased reliability implicit in having potential access to an alternate source of power on days when the potential of

the solar energy system to provide all necessary power is strained or exceeded.  
Further, it is noteworthy that Valdner discloses that such alternate AC/solar recharging systems for batteries are "well known in the art" (column 2, line 42.)

II.) WO 93/00840 and Phyle

Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Phyle.

Referring to Figure 1 of WO 93/00840, an umbrella apparatus (1) comprising:

a base support portion (4);

a pole portion (9) coupled to the base support portion;

a canopy portion (8) coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus (rechargeable batteries 3); and

a solar energy system (2) carried by the pole portion above the canopy portion (2 covers at least part of the top of the canopy (8) thus it is above it and, given that it is carried by the canopy, it is also carried by the pole portion (9) which carries the canopy), the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system (by electrical wires 22), such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system (page 2, line 10 of the translation provided by requester.)

With regard to the limitation of claim 2 that the canopy portion is "hingedly" coupled to the pole portion, it is noted that a hinge at the apex of umbrella apparatus (1) is not expressly shown in the Figures (although Figure 2 does show some sort of wire or circular member threading through two openings under the umbrella cap) nor expressly identified in the disclosure of WO 93/00840. Nevertheless, it can be shown that WO 93/00840 does operate in the manner recited in claim 2 and, thus, meets these limitations based on the principle of inherency:

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)

In the instant case, a full reading of the disclosed form and function of WO 93/00840 shows that recitation of a canopy portion hingedly coupled to a pole portion is implicitly taught. That is to say, the movement of WO 93/00840's components described in its disclosure are necessarily arrived upon through the hinged coupling described in claim 2. More particularly, WO 93/00840 discloses that the canopy (8) has associated mechanisms for opening it (page 1, line 6 of the translation provided by the requester.) WO 93/00840 further discloses that the fabric of which canopy 8 is composed (page 2, lines 4 and 5) is attached to stays 15 (page 2, line 9). Stay 15 includes short and long sections. The short section of 15 (labeled in Figure 1) is hinged to a longer section at a midpoint. Although the longer section is not labeled in the Figures, it is implicitly referenced as "15" in claim 3 by the process of elimination. To wit, no other element

holds valence (23) and is attached supports (24.) Even the hinge connecting the two sections of 15 would serve to "hingedly" couple the canopy portion to the pole portion, but, beyond this point, by virtue of the placement of stay 15 against the pole, one end of the shorter section of 15 must pivot on the longer section of 15 while its other end slides down the pole. Such movement necessitates a hinge under the cap at the top of the pole. Additional evidence that umbrella apparatus (1) opens and closes conventionally (via a hinge at its apex) is provided by the disclosure of "a pin 18 for locking the hub 20 housed in a traverse guide 21" (page 2, lines 17 and 18.) Here again we see that hub 20 slides down guide 21 unless locked by pin 18 in the manner of an umbrella closing "hingedly" at a coupling of a canopy portion and a central shaft.

What WO 93/00840 fails to show is a lighting system carried by the canopy portion and comprising a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power system. These differences are obvious in light of the teachings of Phyle.

Turning to Figures 1 and 4 of Phyle, a lighting system (the system of lighting devices 12) carried by the canopy portion (lighting devices 12 are carried by ribs 22 which form a portion of a canopy (2) as the term is used within the Kuelbs disclosure) and comprising a plurality of fluorescent light elements carried by the rib members (lighting devices 12 are shown as being carried by rib members in Figure 1 and disclosed as being fluorescent light elements in column 4, lines 32-38), the lighting

system being conductively coupled to and powered by an electrical power system (within housing 10).

To produce the structure recited in claims 2 and 5, WO 93/00840 must be altered to substitute the lighting system of Phyle (12) for its lighting system (12 and 25). This could be accomplished by attaching the wiring derived from rechargeable batteries 3 of WO 93/00840 to at least one fluorescent lighting device of Phyle secured to a rib of the WO 93/00840 canopy portion.

Motivation for such a substitution is provided by the fact that much of the light provided by element 12 of WO 93/00840 would be directed away from a user because his or her head would be positioned below it (in a single plane, from Figure 1 it appears as if roughly only 45 degrees of a 180 degree range would be directed immediately toward the user.) Likewise, element 25 would similarly direct light away from a user who would be positioned to the side if the canopy base was attached to a table or diagonally above if the canopy base was placed at ground level in which case radiated light would originate at the level of the user's feet. In contrast Phyle's overhead light system directs less light at the canopy and provides for having many overhead elements. Substituting Phyle's lighting system for the lighting system taught by WO 93/00840 would provide more direct overhead lighting.

III.) Phyle and Valdner

Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Valdner.

Referring to Figures 1 and 2 of Phyle, an umbrella apparatus (1) comprising:  
a base support portion (the patio table which does not carry a reference number);  
a pole portion (20) coupled to the base support portion;  
a canopy portion (2) hingedly coupled to the pole portion (column 2, lines 58-67);  
and

a lighting system (12) carried by the canopy portion (2), the lighting system being conductively coupled to and powered by an electrical power system (batteries 60) and having a plurality of rib members (22) coupled to the canopy portion (2), and a plurality of fluorescent light elements (108 as described on column 4, lines 32-38) carried by the rib members.

What Phyle fails to show is a rechargeable electrical power system and a solar energy system integrated with lighting system 12. These differences are obvious in light of the teachings of Valdner.

Figures 1 and 8 of Valdner disclose a rechargeable electrical power system (Figure 8) for providing electrical power to the umbrella apparatus; and

a solar energy system (38) carried by the pole portion (12) above the canopy portion (24,) the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system such that the solar energy

collected and converted into electrical energy recharges the rechargeable electrical power system (column 2, lines 37-43.)

The umbrella apparatus of Phyle, if modified to substitute the rechargeable electrical power system and a solar energy system of Valdner for electrical power system (60,) including the addition of all necessary wiring to connect elements, would teach all the limitations of claims 2 and 5.

One would be motivated to make such alterations to Phyle for the convenience of not having to change dry cell batteries when their power is exhausted and to make use of the unlimited and free natural resource of sunlight rather than paying for power off the grid.

IV.) WO 93/00840 and Pan et al.

Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Pan et al. (hereafter "Pan".)

Referring to Figure 1 of WO 93/00840, an umbrella apparatus (1) comprising:  
a base support portion (4);  
a pole portion (9) coupled to the base support portion;  
a canopy portion (8) coupled to the pole portion;  
a rechargeable electrical power system for providing electrical power to the umbrella apparatus (rechargeable batteries 3); and



a solar energy system (2) carried by the pole portion above the canopy portion (2) covers at least part of the top of the canopy (8) thus it is above it and, given that it is carried by the canopy, it is also carried by the pole portion (9) which carries the canopy), the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system (by electrical wires 22), such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system (page 2, line 10 of the translation provided by requester.)

With regard to the limitation of claim 2 that the canopy portion is "hingedly" coupled to the pole portion, it is noted that a hinge at the apex of umbrella apparatus (1) is not expressly shown in the Figures (although Figure 2 does show some sort of wire or circular member threading through two openings under the umbrella cap) nor expressly identified in the disclosure of WO 93/00840. Nevertheless, it can be shown that WO 93/00840 does operate in the manner recited in claim 2 and, thus, meets these limitations based on the principle of inherency:

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)

In the instant case, a full reading of the disclosed form and function of WO 93/00840 shows that recitation of a canopy portion hingedly coupled to a pole portion is implicitly taught. That is to say, the movement of WO 93/00840's components described

in its disclosure is necessarily arrived upon through the hinged coupling described in claim 2. More particularly, WO 93/00840 discloses that the canopy (8) has associated mechanisms for opening it (page 1, line 6 of the translation provided by the requester.) WO 93/00840 further discloses that the fabric of which canopy 8 is composed (page 2, lines 4 and 5) is attached to stays 15 (page 2, line 9). Stay 15 includes short and long sections. The short section of 15 (labeled in Figure 1) is hinged to a longer section at a midpoint. Although the longer section is not labeled in the Figures, it is implicitly referenced as "15" in claim 3 by the process of elimination. To wit, no other element holds valence (23) and is attached supports (24.) Even the hinge connecting the two sections of 15 would serve to "hingedly" couple the canopy portion to the pole portion, but, beyond this point, by virtue of the placement of stay 15 against the pole, one end of the shorter section of 15 must pivot on the longer section of 15 while its other end slides down the pole. Such movement necessitates a hinge under the cap at the top of the pole. Additional evidence that umbrella apparatus (1) opens and closes conventionally (via a hinge at its apex) is provided by the disclosure of "a pin 18 for locking the hub 20 housed in a traverse guide 21" (page 2, lines 17 and 18.) Here again we see that hub 20 slides down guide 21 unless locked by pin 18 in the manner of an umbrella closing "hingedly" at a coupling of a canopy portion and a central shaft.

What WO 93/00840 fails to show is a lighting system carried by the canopy portion and comprising a plurality of light emitting diode elements carried by the rib members, each light emitting diode elements being conductively coupled to and

powered by the rechargeable electrical power system. These differences are obvious in light of the teachings of Pan.

Turning to Figure 1 of Pan, a lighting system (the system of lighting devices 5) carried by the canopy portion (lighting devices 5 are carried by ribs 3 which form a portion of a canopy (not depicted but the fabric portion is mentioned on column 1, line 59) and comprising a plurality of light emitting diode elements (column 3, line 3) carried by the rib members (lighting devices 5 are shown as being carried by rib members in Figure 1), the lighting system being conductively coupled to and powered by an electrical power system (switchable power supply 11).

To produce the structure recited in claims 2 and 4, WO 93/00840 must be altered to substitute the lighting system of Pan (the system of lighting devices 5) for its lighting system (12 and 25). This could be accomplished by attaching the wiring derived from rechargeable batteries 3 of WO 93/00840 to the wiring bringing power to lighting devices 5 once they are secured to the ribs of the WO 93/00840 canopy portion.

Motivation for such a substitution is provided by the fact that much of the light provided by element 12 of WO 93/00840 would be directed away from user because his or her head would be positioned below it (in a single plane, from Figure 1 it appears as if roughly only 45 degrees of a 180 degree range would be directed immediately toward the user.) Likewise, element 25 would similarly direct light away from a user who would be positioned to the side if the canopy base was attached to a table or diagonally above if the canopy base was placed at ground level in which case radiated light would originate at the level of the user's feet. In contrast Pan's overhead light system directs

less light at the canopy and provides for having many overhead elements. Substituting Pan's lighting system for the lighting system taught by WO 93/00840 would provide more direct overhead lighting.

### **Grounds of Rejection Raised by Requester**

The rejection of claim 1 under 35 USC 103 as being obvious over WO 93/00840 and Valdner put forth on pages 9-12 of the request is being adopted essentially as proposed in the request.

The rejection of claim 2 under 35 USC 103 as being obvious over Mueller et al. in view of Benton and further in view of Phyle put forth on pages 12-15 of the request is not adopted. Rather than providing item matching between the Mueller and Benton references and claim 2, the requester in his proposed rejection chose instead to rely on the combination of those references "as applied by the patent examiner during the prosecution of the '713 patent" (page 15 of the request.) However, the prosecution history referenced shows that the examiner's application of Mueller and Benton (within the rejection mailed 12/9/02) cannot be coherently subsumed into the requester's proposed rejection. To be exact, taking Mueller as his primary reference, the examiner only relied upon Benton for a teaching of positioning of a rechargeable power system and a solar energy system. These teachings served as a basis for modifying the primary reference such that a combination emerged essentially as the Mueller structure with certain elements rearranged in the manner of Benton. In contrast, according to the

requester's line of reasoning, the lights of Phyle are attached to "the patio table umbrella of Benton" (page 15 of the request.) But, from the examiner's line of reasoning, the amalgamation of Mueller and Benton which served to obviate claim 2 of 10/068424 never included the patio umbrella of Benton. Thus, if the requester adopts the examiner's construct of Mueller et al in view of Benton as a starting point, then the patio umbrella of Benton cannot logically be at play in the requester's proposed rejection.

To clarify the record, it is noted that Benton was inadvertently not printed on the face of Patent Number 6,612,713 although it was clearly considered by the examiner having been applied in the prior art rejection discussed above.

The rejection of claim 2 under 35 USC 103 as being obvious over WO 93/00840 in view of Phyle put forth on pages 15-17 of the request is being adopted essentially as proposed in the request.

The rejection of claim 2 under 35 USC 103 as being obvious over Phyle in view of Valdner put forth on pages 17-19 of the request is being adopted essentially as proposed in the request.

The rejection of claim 5 under 35 USC 103 as being obvious over Mueller et al. in view of Benton and further in view of Phyle put forth on pages 19-21 of the request is not adopted. Insofar as claim 5 depends from claim 2, the reasons provided for not adopting the rejection of claim 2 under 35 USC 103 as being obvious over Mueller et al. in view of Benton and further in view of Phyle apply to claim 5 as well. However, it is agreed that Phyle teaches a plurality of ribs (22) coupled to a canopy (2) and a plurality of fluorescent light devices (12) carried by the ribs (22.)

The rejection of claim 5 under 35 USC 103 as being obvious over WO 93/00840 in view of Phyle put forth on pages 19-21 of the request is being adopted essentially as proposed in the request.

The rejection of claim 5 under 35 USC 103 as being obvious over Phyle in view of Valdner put forth on pages 19-21 of the request is being adopted essentially as proposed in the request.

The rejection of claim 3 under 35 USC 103 as being obvious over Mueller et al. in view of Benton and further in view of Phyle put forth on pages 21-22 of the request is not adopted. Insofar as claim 3 depends from claim 2, the reasons provided for not adopting the rejection of claim 2 under 35 USC 103 as being obvious over Mueller et al. in view of Benton and further in view of Phyle apply to claim 3 as well. It is further noted, however, that in proposing the rejection of claim 3, the requester (apparently) accounts for the recited cold cathode tube element absent in the prior art by taking official notice. The assertion of which the requester takes official notice is never explicitly stated but it stands to reason that the requester holds that it would be well-known to substitute cold cathode tubes for the lighting devices of the prior art. As noted in MPEP 2144.03, such a stance would only be proper for an assertion "capable of such instant and unquestionable demonstration as to defy dispute" In re Ahlert, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970.) That is not the case in the present circumstances. Rather, making a judgment regarding the substitution of a cold cathode tube for another lighting device involves technical facts in an area of esoteric technology.

The rejection of claim 3 under 35 USC 103 as being obvious over WO 93/00840 in view of Phyle put forth on pages 21-22 of the request is not adopted. In proposing the rejection of claim 3, the requester (apparently) accounts for the recited cold cathode tube element absent in the prior art by taking official notice. The assertion of which the requester takes official notice is never explicitly stated but it stands to reason that the requester holds that it would be well-known to substitute cold cathode tubes for the lighting devices of the prior art. As noted in MPEP 2144.03, such a stance would only be proper for an assertion "capable of such instant and unquestionable demonstration as to defy dispute" In re Ahlert, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970.) That is not the case in the present circumstances. Rather, making a judgment regarding the substitution of a cold cathode tube for another lighting device involves technical facts in an area of esoteric technology.

The rejection of claim 3 under 35 USC 103 as being obvious over Phyle in view of Valdner put forth on pages 21-22 of the request is not adopted. In proposing the rejection of claim 3, the requester (apparently) accounts for the recited cold cathode tube element absent in the prior art by taking official notice. The assertion of which the requester takes official notice is never explicitly stated but it stands to reason that the requester holds that it would be well-known to substitute cold cathode tubes for the lighting devices of the prior art. As noted in MPEP 2144.03, such a stance would only be proper for an assertion "capable of such instant and unquestionable demonstration as to defy dispute" In re Ahlert, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970.) That is not the case in the present circumstances. Rather, making a judgment

regarding the substitution of a cold cathode tube for another lighting device involves technical facts in an area of esoteric technology.

The rejection of claim 4 under 35 USC 103 as being obvious over Mueller et al. in view of Benton and further in view of Phyle put forth on pages 21-22 of the request is not adopted. Insofar as claim 4 depends from claim 2, the reasons provided for not adopting the rejection of claim 2 under 35 USC 103 as being obvious over Mueller et al. in view of Benton and further in view of Phyle apply to claim 4 as well. It is further noted, however, that in proposing the rejection of claim 4, the requester (apparently) accounts for the recited light emitting diode element absent in the prior art by taking official notice. The assertion of which the requester takes official notice is never explicitly stated but it stands to reason that the requester holds that it would be well-known to substitute light emitting diode elements for the lighting devices of the prior art. As noted in MPEP 2144.03, such a stance would only be proper for an assertion "capable of such instant and unquestionable demonstration as to defy dispute" In re Ahlert, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970.) That is not the case in the present circumstances. Rather, making a judgment regarding the substitution of a light emitting diode element for another lighting device involves technical facts in an area of esoteric technology.

The rejection of claim 4 under 35 USC 103 as being obvious over WO 93/00840 in view of Phyle put forth on pages 21-22 of the request is not adopted. In proposing the rejection of claim 4, the requester (apparently) accounts for the recited light emitting diode element absent in the prior art by taking official notice. The assertion of which the



requester takes official notice is never explicitly stated but it stands to reason that the requester holds that it would be well-known to substitute light emitting diode elements for the lighting devices of the prior art. As noted in MPEP 2144.03, such a stance would only be proper for an assertion "capable of such instant and unquestionable demonstration as to defy dispute" In re Ahlert, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970.) That is not the case in the present circumstances. Rather, making a judgment regarding the substitution of a light emitting diode element for another lighting device involves technical facts in an area of esoteric technology.

The rejection of claim 4 under 35 USC 103 as being obvious over Phyle in view of Valdner put forth on pages 21-22 of the request is not adopted. In proposing the rejection of claim 4, the requester (apparently) accounts for the recited light emitting diode element absent in the prior art by taking official notice. The assertion of which the requester takes official is never explicitly stated but it stands to reason that the requester holds that it would be well-known to substitute light emitting diode elements for the lighting devices of the prior art. As noted in MPEP 2144.03, such a stance would only be proper for an assertion "capable of such instant and unquestionable demonstration as to defy dispute" In re Ahlert, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970.) That is not the case in the present circumstances. Rather, making a judgment regarding the substitution of a light emitting diode element for another lighting device involves technical facts in an area of esoteric technology.

***Reasons for Confirmation***

Claim 3 is confirmed because none of the art of record teach “a plurality of cold cathode tube elements” and there is no evidence of record that the use of such tubes attached to the ribs of an umbrella is well-known.

Claim 6 is confirmed because none of the art of record teach “an electromechanical opening and closing system for opening and closing the canopy portion, the electromechanical opening and closing system being conductively coupled to and powered by the rechargeable electrical power system.”

Claim 7 is confirmed insofar as it depends from confirmed claim 6 and, further, because none of the art of record teach that the opening and closing of the canopy portion is achieved by an electric motor in response to selective operation of a control system.

Claim 8 is confirmed insofar as it depends from confirmed claim 7 and, further, because none of the art of record teach a receiver conductively coupled to the electric motor; a remote transmitter for transmitting an encoded signal to the receiver; and a decoder conductively coupled to the receiver for decoding the encoded signal from the transmitter.

Claim 9 is confirmed because none of the art of record teach “a cooling system carried by the canopy portion, the cooling system being conductively coupled to and powered by the rechargeable electrical power system, the cooling system comprising; a

fluid reservoir operably associated with the umbrella apparatus; at least one mist nozzle coupled to the canopy portion, each mist nozzle being in fluid communication with the fluid; a conduit creating fluid communication between the fluid reservoir and each mist nozzle; and a pump for pumping the fluid from the reservoir through each mist nozzle.” While Benton does teach a mist device (42 of Figure 1,) there is no teaching of powering the cooling system by the rechargeable electrical power system.

Claim 10 is confirmed because none of the art of record teach “a combination of two or more of the following modular systems: a lighting system carried by the canopy portion; an electromechanical opening and closing system for opening and closing the canopy portion; or a cooling system; wherein each modular system is configured to be interchanged with each other, each modular system being conductively coupled to and powered by the rechargeable electrical power system.”

Claim 11 is confirmed insofar as it depends from confirmed claim 10 and, further, because none of the art of record teach “a plurality of cold cathode tube elements” and there is no evidence of record that the use of such tubes attached to the ribs of an umbrella is well known.

Claim 12 is confirmed insofar as it depends from confirmed claim 10 but it is noted that Figure 1 of Pan et al. teaches a plurality of light emitting diode elements (5) carried by the rib elements (3).

Claim 13 is confirmed insofar as it depends from confirmed claim 10 and, further, because none of the art of record teaches a pump for pumping fluid from a reservoir through mist nozzles (Benton discloses a misting attachment (42) that provides a mist of

water from a pressurized source of water (column 2, lines 27-30) but does not disclose a pump.)

Claim 14 is confirmed insofar as it depends from confirmed claim 10 and, further, because none of the art of record teach that the opening and closing of the canopy portion is achieved by an electric motor in response to selective operation of a control system.

### **Conclusion**

In order to ensure full consideration of any amendments, affidavits or declarations, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be an Action Closing Prosecution (ACP), will be governed by 37 CFR 1.116(b) and (d), which will be strictly enforced.

All correspondence relating to this *inter partes* reexamination proceeding should be directed:

By Mail to:

Attn: Mail Stop "Inter Partes Reexam"  
Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

By FAX to:

(571) 273-9900  
Central Reexamination Unit

Application/Control Number: 95/000,104  
Art Unit: 3992

Page 24

By hand (or delivery service) to: Customer Service Window  
Attn: Central Reexamination Unit  
Randolph Building, Lobby Level  
401 Dulany St.  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Reexamination Legal Advisor or Examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.



Margaret Wambach  
Primary Examiner  
Central Reexamination Unit

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YOT-1003-0277



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CONTROL NO.	FILING DATE	PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
95/000,104	08/12/2005	6,612,713	45639-316477

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EXAMINER

Margaret Wambach

ART UNIT      PAPER

3992

DATE MAILED:

09/28/2005

**INTER PARTES REEXAMINATION  
COMMUNICATION**

BELOW/ATTACHED YOU WILL FIND A COMMUNICATION FROM THE UNITED STATES PATENT AND TRADEMARK OFFICE OFFICIAL(S) IN CHARGE OF THE PRESENT REEXAMINATION PROCEEDING.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this communication.



**DO NOT USE IN PALM PRINTER**

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

Robert E. Richards  
KILPATRICK STOCKTON LLP  
Suite 2800, 1100 Peachtree Street  
Atlanta, GA 30309

**Transmittal of Communication to Third Party Requester  
*Inter Partes* Reexamination**

REEXAMINATION CONTROL NUMBER 95/000,104.

PATENT NUMBER 6,612,713.

TECHNOLOGY CENTER 3992.

ART UNIT 3992.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

<b>Transmittal of Communication to Third Party Requester Inter Partes Reexamination</b>	<b>Control No.</b>	<b>Patent Under Reexamination</b>	
	95/000,104	6612713	
	<b>Examiner</b>	<b>Art Unit</b>	
	Margaret Wambach	3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.



<b>ORDER GRANTING/DENYING REQUEST FOR INTER PARTES REEXAMINATION</b>	<b>Control No.</b>	<b>Patent Under Reexamination</b>	
	95/000,104	6612713	
	<b>Examiner</b>	<b>Art Unit</b>	
	Margaret Wambach	3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

The request for *inter partes* reexamination has been considered. Identification of the claims, the references relied on, and the rationale supporting the determination are attached.

Attachment(s):     PTO-892             PTO-1449 or PTO/SB/08             Other: \_\_\_\_\_

1.  The request for *inter partes* reexamination is GRANTED.

An Office action is attached with this order.

An Office action will follow in due course.

2.  The request for *inter partes* reexamination is DENIED.

This decision is not appealable. 35 U.S.C. 312(c). Requester may seek review of a denial by petition to the Director of the USPTO within ONE MONTH from the mailing date hereof. 37 CFR 1.927. EXTENSIONS OF TIME ONLY UNDER 37 CFR 1.183. In due course, a refund under 37 CFR 1.26(c) will be made to requester.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Order.

DECISION GRANTING *INTER PARTES* REEXAMINATION

A substantial new question of patentability affecting claims 1-5 of United States Patent Number 6,612,713 is raised by the present request for *inter partes* reexamination.

Extensions of time under 37 CFR 1.136(a) will not be permitted in *inter partes* reexamination proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 314(c) requires that *inter partes* reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.937). Patent owner extensions of time in *inter partes* reexamination proceedings are provided for in 37 CFR 1.956. Extensions of time are not available for third party requester comments, because a comment period of 30 days from service of patent owner's response is set by statute. 35 U.S.C. 314(b)(3).

The patent owner is reminded of the continuing responsibility under 37 CFR 1.985(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving Patent No. 6,612,713 throughout the course of this reexamination proceeding. The third party requester is also reminded of the ability to similarly apprise the Office of any such activity or proceeding throughout the course of this reexamination proceeding. See MPEP 2686 and 2686.04.

The request indicates that the third party requester considers claim 1 of Patent No. 6,612,713 to Kuelbs (hereafter 'Kuelbs') to be unpatentable over WO 93/00840 and Valdner.

Secondly, the request indicates that the third party requester considers claim 2 of Kuelbs to be unpatentable over Mueller et al., Benton and Phyle.

Thirdly, the request indicates that the third party requester considers claim 2 of Kuelbs to be unpatentable over WO 93/00840 and Phyle.

Fourthly, the request indicates that the third party requester considers claim 2 of Kuelbs to be unpatentable over Phyle and Valdner.

Further, the request indicates that the third party requester considers claim 5 of Kuelbs to be unpatentable over Mueller et al., Benton and Phyle; WO 93/00840 and Phyle; and Phyle and Valdner.

Lastly, the request indicates that the third party requester considers claims 3 and 4 of Kuelbs to be unpatentable over Mueller et al., Benton and Phyle; WO 93/00840 and Phyle; and Phyle and Valdner.

It is agreed that consideration of WO 93/00840 and Valdner raises a substantial new question as to claim 1 of Kuelbs. As pointed out on pages 8 through 12 of the request, such a combination provides for an electrical charging system for recharging an rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet. The significance of these teachings are underscored by an Examiner's Statement of Reasons for Allowance mailed March 20, 2003 for United States Application Number 10/068,424 which points out the same features as distinguishing claim recitations forming the basis for patentability of claim 5 (corresponding to claim 1 of Kuelbs.) Further, the level of ordinary skill in the art reflected in the art of record would not preclude such a combination, at least not on its

face. There is a substantial likelihood that a reasonable examiner would consider these teachings important in deciding whether or not the claims are patentable, and these teachings are not cumulative to the teachings that were considered or discussed on the record. Accordingly, the joint teachings of WO 93/00840 and Valdner raise a substantial new question of patentability as to claim 1, which question has not been decided in a previous examination of Kuelbs.

It is agreed that consideration of Mueller et al., Benton and Phyle raises a substantial new question as to claims 2 and 5 of Kuelbs. As pointed out on pages 12 through 15 and pages 19 through 21 of the request, such a combination provides for a lighting system including at least one fluorescent element carried by the canopy portion of an umbrella apparatus powered by a rechargeable electrical power source. Again, the significance of these teachings are underscored by the above-referenced Examiner's Statement of Reasons for Allowance which points out features that overlap with the above as distinguishing claim recitations forming the basis for patentability of claim 6 (corresponding to claim 2 of Kuelbs.) Further, the level of ordinary skill in the art reflected in the art of record would not preclude such a combination, at least not on its face. There is a substantial likelihood that a reasonable examiner would consider these teachings important in deciding whether or not the claims are patentable, and these teachings are not cumulative to the teachings that were considered or discussed on the record. Accordingly, the collective teachings of Mueller et al., Benton and Phyle raise a substantial new question of patentability as to claims 2 and 5, which question has not been decided in a previous examination of Kuelbs.

In like manner, it is agreed that consideration of WO 93/00840 and Phyle, and Phyle and Valdner both raise separate substantial new questions as to claims 2 and 5 of Kuelbs. As pointed out on pages 15 through 17 and pages 19 through 21; and pages 17 through 19 and pages 19 through 21, respectively, of the request, such a combination provides for a lighting system including at least one fluorescent element carried by the canopy portion of an umbrella apparatus powered by a rechargeable electrical power source. Again, the significance of these teachings are underscored by the above-referenced Examiner's Statement of Reasons for Allowance which points out features that overlap with the above as distinguishing claim recitations forming the basis for patentability of claim 6 (corresponding to claim 2 of Kuelbs.) Further, the level of ordinary skill in the art reflected in the art of record would not preclude such a combination, at least not on its face. Accordingly, the collective teachings of WO 93/00840 and Phyle, and the collective teachings of Phyle and Valdner both raise separate substantial new questions of patentability as to claims 2 and 5, which question has not been decided in a previous examination of Kuelbs.

It is not agreed that any of the prior art combinations put forth by the requester -- Mueller et al., Benton and Phyle; WO 93/00840 and Phyle; and/or Phyle and Valdner -- raise a substantial new question as to claims 3 and 4. As a preliminary matter, it is noted that the requester's arguments pertaining to claims 3 and 4 fall under the heading "Claims 3 and 4 Stand or Fall with Claim 5". This title suggests that requester's statement pointing out each substantial new question of patentability with respect to claim 5 serves double as a statement pointing out each substantial new question of

patentability with respect to claims 3 and 4; however, 37 CFR 1.915 requires a separate statement for each claim. While the aforesaid heading is not apt, it does not arise to the level of an informality necessitating the correction of the request because the arguments which follow do indeed provide a statement pointing out each substantial new question of patentability based on the cited patents and printed publications, and a detailed explanation of the pertinence and manner of applying the patents and printed publications to both claims 3 and 4.

On the other hand, while ultimately complying with 37 CFR 1.915, the arguments presented with regard to claims 3 and 4 were not persuasive. The requester does not cite a teaching convincingly supporting the substitution of a cold cathode tube or L.E.D. for fluorescent light element 108 of Phyle. Rather, the requester relies on a general statement within Phyle that "other lighting device configurations" may be used. Accordingly, the references cited by the requester and applied to claims 3 and 4 are not such that a reasonable examiner would consider the teaching to be important in deciding whether or not the claim was patentable. No other new question as to claims 3 and 4 has been found. Claims 3 and 4 will be reexamined along with claims 1, 2 and 5 of Kuelbs. In addition, patent claims 6-14 will also be reexamined.

All correspondence relating to this *inter partes* reexamination proceeding should be directed:

By Mail to:

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Central Reexamination Unit  
Office of Patent Legal Administration  
United States Patent & Trademark Office

YOT-1003-0286

Application/Control Number: 95/000,104  
Art Unit: 3992

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Alexandria, VA 22313-1450

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Central Reexamination Unit

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401 Dulany St.  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.



Margaret Wambach  
Primary Examiner  
Central Reexamination Unit

Comberesa  
SC  
Wambach  
SPRE 3992  
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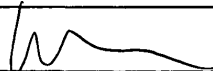
YOT-1003-0287

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Substitute for Form 1449/A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	6,612,713
		Filing Date	September 2, 2003
		First Named Inventor	Gregory G. Kuelbs
		Group Art Unit	3992
Examiner Name	Wambach	Attorney Docket Number	45639-316477

U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
MLV	1	5,584,564		Phyle	12/17/1996	
MLV	2	5,349,975		Vimagda Valdner	9/27/1994	
MLV	3	5,172,711		Erna Mueller et al.	12/22/1992	
MLV		6,017,188		Carolyn Benton	1/25/2000	

FOREIGN PATENT DOCUMENTS								
Examiner Initials	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Y <sup>6</sup>
		Office <sup>2</sup>	Number <sup>4</sup>	Kind Code <sup>3</sup> (if known)				
MLV			WO 93/00840		Perrier et al.	1/21/1993		

Examiner Signature		Date Considered	9/9/05
--------------------	---	-----------------	--------

<sup>1</sup>Unique citation designation number. <sup>2</sup>See attached Kinds of U.S. Patent Documents. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent document, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language translation is attached.



<b>Notice of References Cited</b>	Application/Control No. 95/000,104	Applicant(s)/Patent Under Reexamination 6612713	
	Examiner Margaret Wambach	Art Unit 3992	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
A	US-6,439,249	08-2002	Pan et al.	135/16
B	US-			
C	US-			
D	US-			
E	US-			
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
L	US-			
M	US-			


**FOREIGN PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
N					
O					
P					
Q					
R					
S					
T					


**NON-PATENT DOCUMENTS**

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	
V	
W	
X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<b>Reexamination</b> 	<b>Application/Control No.</b> 95/000,104	<b>Applicant(s)/Patent Under Reexamination</b> 6612713
	<b>Certificate Date</b>	<b>Certificate Number</b>

<b>Requester</b> <b>Correspondence Address:</b> <input type="checkbox"/> Patent Owner <input checked="" type="checkbox"/> Third Party
Robert E. Richards, Esq. Kilpatrick Stockton LLP 1100 Peachtree Street, Suite 2800 Atlanta, Georgia 30309

LITIGATION REVIEW <input checked="" type="checkbox"/>	MRW <small>(examiner initials)</small>	9/19/05 <small>(date)</small>
Case Name	Director Initials	
World Factory Inc v. Southern Sales and Marketing Group Inc U.S. District Court - Texas Northern (Fort Worth) 4:05cv373		
World Factory Inc v. Bond Manufacturing Co U.S. District Court - Texas Northern (Fort Worth) 4:05cv374		

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	NUMBER
1. NONE	
2.	
3.	
4.	

U.S. Patent and Trademark Office

DOC. CODE RXFILJKT

YOT-1003-0290

TO ORDER COPIES OF ANY DOCUMENTS LISTED BELOW, CALL WEST DOCUMENT RETRIEVAL  
1-877-DOC-RETR (1-877-362-7387) (Additional Charges Apply).

This docket is current through 09/27/2005

Court: U.S. DISTRICT COURT NORTHERN DISTRICT OF TEXAS (FORT WORTH)

Case Title: WORLD FACTORY INC v. SOUTHERN SALES AND MARKETING GROUP INC

Case: 4:05-CV-00373

Judge: JOHN MCBRYDE

Date Filed: 06/13/2005

CASE INFORMATION

Case Number: 4:05CV00373

Jury Demand: PLAINTIFF

Nature of Suit: PROPERTY RIGHTS: PATENT (830)

© 2005 Thomson/West. No Claim to Orig. U.S. Govt. Works.

YOT-1003-0291

Jurisdiction: FEDERAL QUESTION

Cause: 35 USC 145 PATENT INFRINGEMENT

PARTICIPANT INFORMATION

Plaintiff: WORLD FACTORY INC

Attorney(s): MICHAEL D ANDERSON  
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Firm Name: KELLY HART & HALLMAN - FORT WORTH

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Firm Name: KELLY HART & HALLMAN - FORT WORTH

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YOT-1003-0292




Attorney Address: 201 MAIN ST  
 SUITE 2500  
 FORT WORTH, TX 76102-3194

Attorney Phone: 817-332-2500

Attorney Fax: 817-878-9280


Defendant: SOUTHERN SALES AND MARKETING GROUP INC DOING BUSINESS  
 AS SOUTHERN PATIO

DOCKET PROCEEDINGS


Entry#:	Date:	Description:
1	06/14/2005	COMPLAINT AND JURY DEMAND AGAINST SOUTHERN SALES AND MARKETING GROUP INC ( FILING FEE \$250; RECEIPT NUMBER 53004), FILED BY WORLD FACTORY INC.(MJW, ) (ENTERED: 06/14/2005)
		 View Document in PDF Format
5	06/13/2005	CIVIL COVER SHEET FILED BY WORLD FACTORY INC. (MJW, ) (ENTERED: 06/15/2005)
		 View Document in PDF Format
4	06/13/2005	MAILING OF PATENT AND TRADEMARK INFRINGEMENT NOTICE TO DIRECTOR IN ALEXANDRIA VA (MJW, ) (ENTERED: 06/14/2005)
		 View Document in PDF Format

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3                    06/13/2005            SUMMONS ISSUED AS TO SOUTHERN SALES AND MARKETING  
GROUP INC. (MJW, ) (ENTERED: 06/14/2005)

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2                    06/13/2005            CERTIFICATE OF INTERESTED PERSONS/DISCLOSURE  
STATEMENT BY WORLD FACTORY INC. (MJW, ) (ENTERED:  
06/14/2005)

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TO ORDER COPIES OF ANY DOCUMENTS LISTED ABOVE, CALL WEST DOCUMENT RETRIEVAL  
1-877-DOC-RETR (1-877-362-7387) (Additional Charges Apply).

END OF DOCUMENT

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YOT-1003-0294

TO ORDER COPIES OF ANY DOCUMENTS LISTED BELOW, CALL WEST DOCUMENT RETRIEVAL  
1-877-D0C-RETR (1-877-362-7387) (Additional Charges Apply).

This docket is current through 09/27/2005

Court: U.S. DISTRICT COURT NORTHERN DISTRICT OF TEXAS (FORT WORTH)

Case Title: WORLD FACTORY INC v. BOND MANUFACTURING CO

Case: 4:05-CV-00374

Judge: JOHN MCBRYDE

Date Filed: 06/13/2005

CASE INFORMATION

Case Number: 4:05CV00374

Jury Demand: PLAINTIFF

Nature of Suit: PROPERTY RIGHTS: PATENT (830)

Jurisdiction: FEDERAL QUESTION

© 2005 Thomson/West. No Claim to Orig. U.S. Govt. Works.

Cause: 35 USC 145 PATENT INFRINGEMENT

PARTICIPANT INFORMATION

Plaintiff: WORLD FACTORY INC

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YOT-1003-0296



FORT WORTH, TX 76102-3194


Attorney Phone: 817-332-2500

Attorney Fax: 817-878-9280


Defendant: BOND MANUFACTURING CO

DOCKET PROCEEDINGS


Entry#:	Date:	Description:
4	06/14/2005	NOTICE OF PATENT FILING MAILED TO US PATENT AND TRADEMARK OFFICE(JMB, ) (ENTERED: 06/14/2005)

 View Document in PDF Format

3	06/14/2005	SUMMONS ISSUED AS TO BOND MANUFACTURING CO. (JMB, ) (ENTERED: 06/14/2005)
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 View Document in PDF Format

2	06/13/2005	CERTIFICATE OF INTERESTED PERSONS/DISCLOSURE STATEMENT BY WORLD FACTORY INC. (JMB, ) (ENTERED: 06/14/2005)
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	06/13/2005	DEMAND FOR TRIAL BY JURY BY WORLD FACTORY INC. (JMB, ) ON FACE OF COMPLAINT (ENTERED: 06/14/2005)
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Order Document for Later Delivery

© 2005 Thomson/West. No Claim to Orig. U.S. Govt. Works.

1                    06/13/2005        COMPLAINT AGAINST BOND MANUFACTURING CO ( FILING  
FEE \$250; RECEIPT NUMBER 53005), FILED BY  
WORLD FACTORY INC.(JMB, ) (ENTERED: 06/14/2005)

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1-877-DOC-RETR (1-877-362-7387) (Additional Charges Apply).

END OF DOCUMENT

© 2005 Thomson/West. No Claim to Orig. U.S. Govt. Works.

YOT-1003-0298

**Search Notes**



<b>Application/Control No.</b>	<b>Applicant(s)/Patent under Reexamination</b>	
95/000,104	6612713	
<b>Examiner</b>	<b>Art Unit</b>	
Margaret Wambach	3992	

<b>SEARCHED</b>			
Class	Subclass	Date	Examiner
None			

<b>INTERFERENCE SEARCHED</b>			
Class	Subclass	Date	Examiner

<b>SEARCH NOTES (INCLUDING SEARCH STRATEGY)</b>		
	DATE	EXMR
EAST (USPAT) See Search History Printout	9/14/2005	MRW
EAST (USPGPUB, USOCR, EPO, JPO, Derwent and IBM_TDB) See Search History Printout	9/14/2005	MRW

S36	580	S32 and (cathode adj3 tube)	USPAT	SAME	ON	2005/09/13 17:03
S37	4	S36 and (umbrella or parasol)	USPAT	OR	ON	2005/09/13 17:04
S38	1	S37 not S35	USPAT	OR	ON	2005/09/13 17:04
S39	4747	S32 and led\$	USPAT	OR	ON	2005/09/13 17:07
S40	17	S32 and "l.e.d.\$"	USPAT	OR	ON	2005/09/13 17:07
S41	4758	S39 S40	USPAT	OR	ON	2005/09/13 17:07
S42	45	S41 and (umbrella or parasol)	USPAT	OR	ON	2005/09/13 17:21
S43	0	cold adj cathode adj tube	USPAT	OR	ON	2005/09/13 17:22
S44	735	cold adj cathode adj tube	USPAT	OR	ON	2005/09/13 17:22
S45	2	S44 and (umbrella or parasol)	USPAT	OR	ON	2005/09/14 09:25
S46	735	cold adj cathode adj tube	USPAT	OR	ON	2005/09/14 08:29
S47	0	S46 and (umbrella or parasol)	US-PGPUB; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/09/14 08:30
S48	834	(led or "l.e.d." or (light adj emitting adj diode)) and (umbrella or parasol)	US-PGPUB; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/09/14 08:32
S49	735	cold adj cathode adj tube	USPAT	OR	ON	2005/09/14 09:25
S50	2	S49 and (umbrella or parasol)	USPAT	OR	ON	2005/09/14 09:25
S51	2	S49 and (sun-shade or canopy)	USPAT	OR	ON	2005/09/14 09:27
S52	1	S51 not S50	USPAT	OR	ON	2005/09/14 09:26
S53	0	S49 and (sun-shade or canopy)	US-PGPUB; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/09/14 09:27
S54	1	"6439249".pn.	USPAT	OR	ON	2005/09/14 09:50
S55	0	S54 and solar	USPAT	OR	ON	2005/09/14 09:51
S56	1	"6923194".pn.	USPAT	OR	ON	2005/09/14 09:52

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	("6612713").PN.	USPAT	OR	OFF	2005/09/08 07:31
S2	4	((("5584564") or ("5349975") or ("5172711") or ("6017188")).PN.	USPAT	OR	OFF	2005/09/13 11:59
S3	1	"5126922".pn.	USPAT	OR	ON	2005/09/08 14:00
S4	1	S3 and light\$3	USPAT	OR	ON	2005/09/08 07:41
S5	0	S4 and recharg\$6	USPAT	OR	ON	2005/09/08 08:10
S6	0	S3 and led\$	USPAT	OR	ON	2005/09/13 16:46
S7	0	S3 and "l.e.d.\$"	USPAT	OR	ON	2005/09/13 16:46
S8	0	S3 and diode	USPAT	OR	ON	2005/09/08 08:13
S9	1	S3 and fluorescent	USPAT	OR	ON	2005/09/08 08:13
S10	1	"5273062".pn.	USPAT	OR	ON	2005/09/13 16:45
S11	1	"5463536".pn.	USPAT	OR	ON	2005/09/13 16:47
S12	1	"5463536".pn.	USPAT	OR	ON	2005/09/08 13:59
S13	0	S12 and outlet	USPAT	OR	ON	2005/09/08 13:59
S14	1	"5273062".pn.	USPAT	OR	ON	2005/09/08 13:59
S15	1	S14 and outlet	USPAT	OR	ON	2005/09/08 14:00
S16	1	"5126922".pn.	USPAT	OR	ON	2005/09/08 14:00
S17	0	S16 and outlet	USPAT	OR	ON	2005/09/08 14:00
S18	4	"5584564".pn. "5349975".pn. "5172711".pn. "6017188".pn.	USPAT	OR	ON	2005/09/13 12:01
S19	260240	"4" and led\$	USPAT	OR	ON	2005/09/13 12:02
S20	0	S18 and led\$	USPAT	OR	ON	2005/09/13 12:04
S21	1	S18 and diode	USPAT	OR	ON	2005/09/13 12:02
S22	0	S18 and "l.e.d."	USPAT	OR	ON	2005/09/13 12:03
S23	112	"l.e.d."	USPAT	OR	ON	2005/09/13 12:03
S24	0	S18 and cathode	USPAT	OR	ON	2005/09/13 16:48
S25	1	"5273062".pn.	USPAT	OR	ON	2005/09/13 16:46
S26	0	S25 and led\$	USPAT	OR	ON	2005/09/13 17:06
S27	0	S25 and "l.e.d.\$"	USPAT	OR	ON	2005/09/13 17:07
S28	1	"5463536".pn.	USPAT	OR	ON	2005/09/13 16:47
S29	0	S28 and led\$	USPAT	OR	ON	2005/09/13 16:47
S30	0	S28 and "l.e.d.\$"	USPAT	OR	ON	2005/09/13 16:47
S31	0	S28 and cathode	USPAT	OR	ON	2005/09/13 16:48
S32	57210	"362"/\$.ccls.	USPAT	OR	ON	2005/09/13 16:48
S33	1533	S32 and cathode	USPAT	OR	ON	2005/09/13 16:49
S34	545	S32 and (cold adj cathode)	USPAT	OR	ON	2005/09/13 16:56
S35	6	S34 and (umbrella or parasol)	USPAT	OR	ON	2005/09/13 17:07

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0664MH-40982-REX

In re Reexamination of:

**GREGORY G. KUELBS**

Examiner: **MARGARET WAMBACH**

Control No. **95/000,104** 66548 U.S. PTO

Patent No. **6,612,713** 11/21/05

Issued: **2 SEPTEMBER 2003**

Art Unit: **3992**

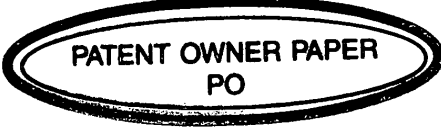
For: **UMBRELLA APPARATUS**

TRANSMITTAL

11/22/2005 MAILITY 00000202 502006 95000104  
01 FC:2021 2200.00 OP  
02 FC:2022 150.00 DA 600.00 OP

**MAIL STOP: INTER PARTES REEXAM**

Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450



Sir:

Please file the following documents in the subject reexamination application:

1. This Transmittal with Certificate of Mailing;
2. Response to Order Granting *Inter Partes* Reexamination and Office Action in *Inter Partes* Reexamination;

<b>CERTIFICATE OF EXPRESS MAIL UNDER 37 C.F.R. § 1.8(a)</b>	
Date of Deposit:	<u>11/18/05</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail with sufficient postage under 37 C.F.R. §1.8(a) on the date indicated above and is addressed to Mail Stop: Inter Partes Reexam, Central Reexamination Unit, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.	
By:	<u><i>Jimmie E. Watts</i></u>

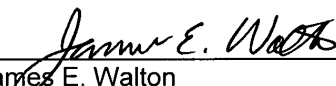
3. Declaration Under 37 C.F.R. § 1.131 of Gregory G. Kuelbs, including Exhibits;
4. Declaration Under 37 C.F.R. § 1.131 of Rodney S. Quillen, including Exhibits;
5. Information Disclosure Statement, Form PTO/SB/08A, and a copy of the cited reference;
6. Our check in the amount of \$2,800.00 to cover the excess claim fees; and
7. Our return postcard which we would appreciate you date stamping and returning to us.

Enclosed is a check in the amount of \$2,800.00 to cover the cost of 30 new claims, which includes 22 independent claims in excess of three ( $\$100.00 \times 22 = \$2,200.00$ ) and 24 claims in excess of twenty ( $\$25.00 \times 24 = \$600.00$ ). No other fees are deemed to be necessary; however, the undersigned hereby authorizes the Director to charge any additional fees that may be required, or credit any overpayments, to **Deposit Account No. 502806**.

**Please link this reexamination application to Customer Nos. 50779 and 38441 so that its status may be checked via the PAIR System.**

Respectfully submitted,

11/18/05  
Date

  
\_\_\_\_\_  
James E. Walton  
Reg. No. 47,245  
Brian E. Harris  
Reg. No. 48,383  
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1169 N. Burleson Blvd., Suite 107-328  
Burleson, Texas 76028  
(817) 447-9955 (Voice)  
(817) 447-9954 (Facsimile)  
jim@waltonpllc.com

**CUSTOMER NOS. 50779 and 38441**

ATTORNEYS AND AGENTS FOR PATENTEE

(mas)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0664MH-40982-REX

In re Reexamination of:

**GREGORY G. KUELBS**

Control No. **95/000,104**

Patent No. **6,612,713**

Issued: **2 SEPTEMBER 2003**

For: **UMBRELLA APPARATUS**

66548 U.S. PTD



11/21/05

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Examiner: **MARGARET WAMBACH**

A/  
NE-

Art Unit: **3992**

- No statement of support. See 37 CFR 1.530(e).
- Newly added claims not underlined. See 37 CFR 1.530(f)(1) and (2).
- Cert. of service has no date of service. See 37 CFR 1.248.

**RESPONSE TO  
ORDER GRANTING INTER PARTES REEXAMINATION AND  
OFFICE ACTION IN INTER PARTES REEXAMINATION**

**MAIL STOP: INTER PARTES REEXAM**

Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450



Sir:

This Response is being filed in response to the Order Granting *Inter Partes* Reexamination and the Office Action in *Inter Partes* Reexamination mailed to the undersigned on 28 September 2005.

CERTIFICATE OF EXPRESS MAIL UNDER 37 C.F.R. § 1.8(a)	
Date of Deposit:	<u>11/18/05</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail with sufficient postage under 37 C.F.R. §1.8(a) on the date indicated above and is addressed to Mail Stop: Inter Partes Reexam, Central Reexamination Unit, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.	
By:	<u>Jam E. Waack</u>



**Prior or Concurrent Proceedings:**

Pursuant to 37 C.F.R. § 1.985, the Patent Owner hereby calls to the attention of the Examiner the following litigation proceedings that involve the subject patent:

1. Civil Action No. 4:05-CV-00373, *World Factory, Inc. v. Southern Sales & Marketing Group, Inc.*, United States District Court for the Northern District of Texas, Fort Worth Division. This case was filed on 13 June 2005 and is currently pending. A copy of the Summons and Complaint has not been served on Southern Sales & Marketing Group, Inc.

2. Civil Action No. 4:05-CV-374-A, *World Factory, Inc. v. Bond Manufacturing Co.*, United States District Court for the Northern District of Texas, Fort Worth Division. This case was filed on 13 June 2005 and is currently pending. A copy of the Summons and Complaint has not been served on Bond Manufacturing Co.

The Patent Owner is not aware of any other litigation proceedings involving the subject patent.

**Substantial New Question of Patentability:**

Claims 1-14 are currently pending in the subject patent. The third-party requester requested reexamination of Claims 1-5.

As set forth in the Order Granting *Inter Partes* reexamination, the Examiner found that a substantial new question of patentability has been raised with respect to Claims 1-5.

The third-party requester failed to show that a substantial new question of patentability is raised with respect to Claims 3 and 4 by the references submitted by the third-party requester. However, the Examiner rejected Claim 4 based upon a rejection not proposed in the request. As such, Claims 1, 2, 4, and 5 stand rejected under 35 U.S.C. § 103(a). As such, Claims 1-5 were reexamined. As set forth in the Order, Claims 6-14 were also reexamined.

Claims 3 and 6-14 stand confirmed.

**In the Claims:**

The following is a complete listing of the claims.

The Patent Owner submits that the following amendments add no new matter to the application and do not broaden the scope of the application.

Please amend the claims as follows:

1. **(Original)** An umbrella apparatus comprising:
  - a base support portion;
  - a pole portion coupled to the base support portion;
  - a canopy portion hingedly coupled to the pole portion;
  - a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
  - a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;
  - and
  - an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet.
  
2. **(Original)** An umbrella apparatus comprising:
  - a base support portion;
  - a pole portion coupled to the base support portion;
  - a canopy portion hingedly coupled to the pole portion;
  - a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
  - a solar energy system carried by the pole portion above the canopy portion, the

solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system.

3. **(Confirmed)** The umbrella apparatus according to claim 2, wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion; and

a plurality of cold cathode tube elements carried by the rib members, each cold cathode tube element being conductively coupled to and powered by the rechargeable electrical power source.

4. **(Original)** The umbrella apparatus according to claim 2, wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion; and

a plurality of light emitting diode elements carried by the rib members, each light emitting diode element being conductively coupled to and powered by the rechargeable electrical power source.

5. **(Original)** The umbrella apparatus according to claim 2, wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion; and

a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power source.

6. **(Confirmed)** An umbrella apparatus comprising:  
a base support portion;  
a pole portion coupled to the base support portion;  
a canopy portion hingedly coupled to the pole portion;  
a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
and

an electromechanical opening and closing system for opening and closing the canopy portion, the electromechanical opening and closing system being conductively coupled to and powered by the rechargeable electrical power system.

7. **(Confirmed)** The umbrella apparatus according to claim 6, wherein the electromechanical opening and closing system comprises:

an electric motor carried by the pole portion;  
a control system for controlling the electric motor;  
a gear system coupled to the electric motor; and

a cable and pulley system coupled to the gear system and the canopy portion;  
wherein the opening and closing of the canopy portion is achieved by the electric motor in response to selective operation of the control system.

8. **(Confirmed)** The umbrella apparatus according to claim 7, wherein the control system comprises:

a receiver conductively coupled to the electric motor;  
a remote transmitter for transmitting an encoded signal to the receiver; and  
a decoder conductively coupled to the receiver for decoding the encoded signal

from the transmitter.

9. **(Confirmed)** An umbrella apparatus comprising:  
a base support portion;  
a pole portion coupled to the base support portion;  
a canopy portion hingedly coupled to the pole portion;  
a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
and

a cooling system carried by the canopy portion, the cooling system being conductively coupled to and powered by the rechargeable electrical power system, the cooling system comprising;

a fluid reservoir operably associated with the umbrella apparatus;

at least one mist nozzle coupled to the canopy portion, each mist nozzle being in fluid communication with the fluid;

a conduit creating fluid communication between the fluid reservoir and each mist nozzle; and

a pump for pumping the fluid from the reservoir through each mist nozzle.

10. **(Confirmed)** An umbrella apparatus comprising:  
a base support portion;  
a pole portion coupled to the base support portion;  
a canopy portion hingedly coupled to the pole portion;  
a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the

rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

a combination of two or more of the following modular systems:

a lighting system carried by the canopy portion;

an electromechanical opening and closing system for opening and closing the canopy portion; or

a cooling system;

wherein each modular system is configured to be interchanged with each other, each modular system being conductively coupled to and powered by the rechargeable electrical power system.

11. **(Confirmed)** The umbrella apparatus according to claim 10, wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion; and

a plurality of cold cathode tube elements carried by the rib members, each cold cathode tube element being conductively coupled to and powered by the rechargeable electrical power source.

12. **(Confirmed)** The umbrella apparatus according to claim 10, wherein the lighting system comprises:

a plurality of rib members coupled to the canopy portion; and

a plurality of light emitting diode elements carried by the rib members, each light emitting diode element being conductively coupled to and powered by the rechargeable electrical power source.

13. **(Confirmed)** The umbrella apparatus according to claim 10, wherein the cooling system comprises:

a fluid reservoir operably associated with the umbrella apparatus;

at least one mist nozzle coupled to the canopy portion, each mist nozzle being in fluid communication with the fluid;

a conduit creating fluid communication between the fluid reservoir and each mist nozzle; and

a pump for pumping the fluid from the reservoir through each mist nozzle.

14. **(Confirmed)** The umbrella apparatus according to claim 10, wherein the electromechanical opening and closing system comprises:

an electric motor carried by the pole portion;

a control system for controlling the electric motor;

a gear system coupled to the electric motor; and

a cable and pulley system coupled to the gear system and the canopy portion;

wherein the opening and closing of the canopy portion is achieved by the electric motor in response to selective operation of the control system.

15. **(New)** A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet;

wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing.



16. **(New)** A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;

and

an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet;

wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion above the canopy portion.

17. **(New)** A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion, the canopy portion being operable between an open position and a closed position;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;

and

an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet;

wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion such that the housing is fixed relative to the pole portion when the canopy is operated between the opened position and the closed position.

18. **(New)** A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion, the canopy portion being operable between an open position and a closed position;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;

and

an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet;

wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion such that the housing is fixed relative to the pole portion when the canopy is operated between the opened position and the closed position, and the common housing is disposed at least partially above the canopy portion.

19. **(New)** An umbrella apparatus, comprising:
- a base support portion;
  - a pole portion coupled to the base support portion;
  - a canopy portion having a plurality of rib members, the canopy portion being hingedly coupled to the pole portion;
  - a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
  - a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;
  - and
  - a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;
- wherein the lighting system includes multiple discrete lighting elements positioned along a rib member.
20. **(New)** The umbrella apparatus according to claim 19, wherein the lighting system includes multiple discrete lighting elements along each rib member.
21. **(New)** The umbrella apparatus according to claim 19, wherein each lighting element is at least partially recessed within the corresponding rib member.
22. **(New)** The umbrella apparatus according to claim 19 wherein each lighting element is fully recessed within the corresponding rib member.
23. **(New)** The umbrella apparatus according to claim 22 further comprising a translucent cover over the lighting elements.

24. **(New)** The umbrella apparatus of claim 19 wherein the multiple discrete lighting elements are each an LED.

25. **(New)** The umbrella apparatus according to claim 21, further comprising:  
wires for conductively coupling the lighting elements to the rechargeable electrical power source, the wires being at least partially recessed within the rib members.

26. **(New)** An umbrella apparatus, comprising:  
a base support portion;  
a pole portion coupled to the base support portion;  
a canopy portion having a plurality of rib members, the canopy portion being hingedly coupled to the pole portion;  
a rechargeable electrical power system for providing electrical power to the umbrella apparatus;  
a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;  
a plurality of lighting elements carried by the rib members, each lighting element being conductively coupled to and powered by the rechargeable electrical power source; and  
wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion above the canopy portion.

27. **(New)** A patio umbrella apparatus, comprising:
- a base support portion;
  - a pole portion coupled to the base support portion;
  - a canopy portion hingedly coupled to the pole portion;
  - a crank housing coupled to the pole portion, the crank housing being adapted to partially house a system for opening and closing the canopy portion;
  - a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
  - a switch disposed in the crank housing for controlling the provision of electrical power from the rechargeable electrical power system;
  - a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;
  - and
  - an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet.
28. **(New)** The patio umbrella apparatus according to claim 24, further comprising:
- a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system.
29. **(New)** An umbrella apparatus, comprising:
- a pole portion adapted for use with a supportive base portion;
  - a base support portion for supporting the umbrella apparatus in an upright orientation;
  - a canopy portion hingedly coupled to the pole portion;
  - a crank housing coupled to the pole portion, the crank housing being adapted to partially house a system for opening and closing the canopy portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a switch disposed in the crank housing for controlling the provision of electrical power from the rechargeable electrical power system;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;

wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion such that the housing is fixed relative to the pole portion when the canopy is operated between the opened position and the closed position.

30. **(New)** An umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion having a plurality of rib members, the canopy portion being hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

a lighting system carried by the canopy portion, the lighting system being

conductively coupled to and powered by the rechargeable electrical power system;

wherein the lighting system includes a plurality of lighting elements, each lighting element being at least partially recessed within a corresponding rib member and each lighting element being conductively coupled by a conductor disposed within a corresponding rib member.

31. **(New)** An umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion having a plurality of rib members, the canopy portion being hingedly coupled to the pole portion;

a housing mounted atop the pole portion and above the canopy portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus, the rechargeable electrical power system being disposed within the housing;

a solar energy system for collecting solar energy and converting the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system, the solar energy system being disposed within the housing; and

a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system and having a plurality of lighting elements, each lighting element being at least partially recessed within a corresponding rib member and being conductively coupled to the rechargeable electrical power system via a conductor disposed within the corresponding rib member.

32. **(New)** An umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion having a plurality of rib members, the canopy portion being

hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;

wherein the lighting system includes a plurality of light emitting diodes, each light emitting diode being at least partially recessed within a corresponding rib member and each light emitting diode being conductively coupled by a conductor disposed within a corresponding rib member.

33. **(New)** An umbrella apparatus, comprising:

a base support portion adapted to maintain the umbrella in an upright position;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;

wherein the rechargeable electrical power system and the solar energy system



are disposed in a common housing.

34. **(New)** A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;

wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion above the canopy portion.

35. **(New)** A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion, the canopy portion being operable between an open position and a closed position;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and

converted into electrical energy recharges the rechargeable electrical power system;  
and

a lighting system carried by the canopy portion, the lighting system being  
conductively coupled to and powered by the rechargeable electrical power system;

wherein the rechargeable electrical power system and the solar energy system  
are disposed in a common housing carried by the pole portion such that the housing is  
fixed relative to the pole portion when the canopy is operated between the opened  
position and the closed position.

36. **(New)** A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion, the canopy portion being  
operable between an open position and a closed position;

a rechargeable electrical power system for providing electrical power to the  
umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the  
solar energy system being adapted to collect solar energy and convert the solar energy  
into electrical energy, the solar energy system being conductively coupled to the  
rechargeable electrical power system, such that the solar energy collected and  
converted into electrical energy recharges the rechargeable electrical power system;  
and

a lighting system carried by the canopy portion, the lighting system being  
conductively coupled to and powered by the rechargeable electrical power system;

wherein the rechargeable electrical power system and the solar energy system  
are disposed in a common housing carried by the pole portion such that the housing is  
fixed relative to the pole portion when the canopy is operated between the opened  
position and the closed position, and the common housing is disposed at least partially  
above the canopy portion.

37. **(New)** A patio umbrella apparatus, comprising:

a base support portion;  
a pole portion coupled to the base support portion;  
a canopy portion hingedly coupled to the pole portion;  
a rechargeable electrical power system disposed in a housing for providing electrical power to the umbrella apparatus;  
a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system, the solar energy system also being disposed in the housing;  
a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system; and  
a switch located remote from the housing for controlling provision of electrical power from the rechargeable electrical power system.

38. **(New)** A patio umbrella apparatus, comprising:

a base support portion;  
a pole portion coupled to the base support portion;  
a canopy portion hingedly coupled to the pole portion;  
a rechargeable electrical power system disposed in a housing for providing electrical power to the umbrella apparatus;  
a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system, the solar energy system also being disposed in the housing;  
a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system; and  
a switch located below the housing for controlling provision of electrical power

from the rechargeable electrical power system.

39. **(New)** A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system disposed in a housing for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system, the solar energy system also being disposed in the housing;

a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system; and

a switch located on the pole portion for controlling provision of electrical power from the rechargeable electrical power system.

40. **(New)** An umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion being hingedly coupled to the pole portion, the canopy portion having a plurality of rib members, each rib member having a recessed longitudinal channel;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and

converted into electrical energy recharges the rechargeable electrical power system;  
a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;  
a plurality of lighting elements carried by the rib members, each lighting element being disposed within the channel and being conductively coupled to and powered by the rechargeable electrical power source; and  
wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion above the canopy portion.

41. **(New)** The umbrella apparatus according to claim 37, further comprising:  
a transparent cover disposed over each channel.
42. **(New)** An umbrella apparatus, comprising:  
a base support portion;  
a pole portion coupled to the base support portion;  
a canopy portion being hingedly coupled to the pole portion, the canopy portion having a plurality of rib members;  
a rechargeable electrical power system for providing electrical power to the umbrella apparatus;  
a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
and  
a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system wherein the lighting system, comprises:  
a plurality of discrete lighting elements carried by each rib member;  
wherein each discrete lighting element is conductively coupled to and

powered by the rechargeable electrical power source.

43. **(New)** A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried atop the pole portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet.

44. **(New)** An umbrella apparatus comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried atop the pole portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system.

**Rejections Under 35 U.S.C. § 103:**

Claims 1, 2, 4, and 5 stand rejected under 35 U.S.C. § 103(a). The rejections are grouped into four combinations of prior art: Combination I (WO 93/00840 and Valdner); Combination II (WO 93/00840 and Phyle); Combination III (Phyle and Valdner); and Combination IV (WO 93/00840 and Pan et al.).

**Combination I:**

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Combination I. The Examiner states that WO 93/00840 discloses an umbrella apparatus having a base support portion 4, a pole portion 9 coupled to the base support portion, a canopy portion 8 coupled to the pole portion, a rechargeable electrical power system 3 for providing electrical power to the umbrella apparatus, a solar energy system 2 carried by the pole portion above the canopy portion, and an electrical charging system being adapted to receive power from a power outlet (power cord 14).

The Examiner concedes that WO 93/00840 fails to show an electrical charging system for recharging the rechargeable electrical power system with power from an AC power outlet. The Examiner states that these differences are taught by Valdner.

The WO 93/00840 application discloses an umbrella 1 having a hollow mast 9, a housing 10 having openings 11, a canopy 8, stays 15 to which the canopy 8 is attached, a base 4, batteries 3 carried in the base 4, a cord 6 and a pulley 7 for controlling the canopy 8, a light 12 carried with in the hollow mast 9, a solar collector 2 for recharging the batteries 3, and a power cord 14 for connecting to an alternate source of energy. The canopy 8 is composed of either: (1) a perforated fabric; or (2) an impermeable unperforated fabric having a valence 23 held at the end of supports 24 that forms a peripheral gutter for draining off water. The solar collector 2 covers all or part of the canopy 8. The light 12 is equipped with a ventilated protective tube 13 made of perforated metal, screen, Plexiglas, glass, or a translucent or colored sleeve. Another light 25 is located in the base 4.

There are several distinguishing features between the WO 93/00840 device and the claimed invention. Although WO 93/00840 appears to disclose a lighted umbrella with rechargeable batteries, WO 93/00840 does not disclose, teach, mention, suggest, or disclose a motivation for using an AC power source to recharge the rechargeable batteries. As explained on page 2, line 12 of the translation provided by the third-party requester, the power cord 14 disclosed in WO 93/00840 is for "connecting to another source of energy ..." The batteries 3 are only recharged by the solar collector 2. Thus, the WO 93/00840 device must operate on either the rechargeable batteries 3 or off of another source of energy via the power cord 14. In the WO 93/00840 application, the only use of AC power is as an alternate power source. The WO 93/00840 application makes no suggestion whatsoever of combining or providing rechargeable batteries that can be recharged by both a solar energy recharging system and an electrical charging system that is adapted to receive power from an AC power source.

Furthermore, the solar collector 2 in the WO 93/00840 device must fold down when the canopy is in the down position. Because the solar collector 2 moves with the canopy 8, the solar collector 2 is ineffective for several reasons. First, when the solar collector 2 is folded down with the canopy 8, the material of the canopy 8 blocks and shades the sun from shining onto the solar collector 2, thereby preventing sunshine from hitting the solar collector 2. Second, even if parts of the solar collector 2 are exposed when the canopy 8 is in the down position, the solar collector 2 is in a substantially vertical position, which is very ineffective for collecting solar energy. Third, the solar collector 2 is susceptible to damage from the canopy 8, the stays 15, the supports 24, the peripheral gutter, the flexible drain pipe, and other components of the umbrella 1, when the canopy 8 is repeatedly opened and closed.

Valdner discloses a hand-held, air cooled umbrella 10 having a rod 12, a handle 14 with hand grips 16, a top spring 18, a runner 20, a plurality of stretchers 22, and a collapsible canopy 24. The umbrella 10 includes flat ribs 26 with holes 28 to vent hot air from under the canopy 24. An electric fan 30 powered by an electric motor 32 is built into the rod 12. A solar cell panel 38 mounted to the apex of the canopy 24 provides power to the electric fan 30 on hot sunny days. In addition, the umbrella 10



includes a rechargeable handle battery pack 44 that plugs into the bottom end of the handle 14 to supply power to the electric fan 30 on hot sunless days and at night when there is no solar energy available. The rechargeable handle battery pack 44 may be charged utilizing a separate charger assembly 54 having plugs 58 for plugging into an AC power outlet.

There are also several distinguishing features between the Valdner device and the claimed invention. The Valdner umbrella is not a large patio umbrella that requires a base support to keep the umbrella in an upright position. In fact, in referring to large umbrellas that people sit under, Valdner states: "While these units may be suitable for the particular purpose to which they address, they would not be suitable for purposes of the present invention as heretofore described." Column 1, lines 14-17. Thus, Valdner expressly teaches away from large patio umbrellas that require base supports.

Although Valdner discloses a rechargeable battery pack that is adapted to receive power from an AC power source, the Valdner device is not designed to be used while the battery pack is being recharged by or connected to the AC power source. On hot sunny days, the solar cell panel 38 runs the electric fan 30. On hot sunless days and nights, the rechargeable handle battery pack 44 can be used to supply the power. In the Valdner device, the solar cell panel 38 is used to directly drive the load of the electric fan 30. Other than the solar cell panel 38, the only means taught by Valdner for supplying power to the electric fan 30 is by using the rechargeable handle battery pack 44, as set forth at column 3, lines 3-6: "On hot sunless days and nights the electric plug 46 may be inserted into the electric socket 40 to now supply power to the electric fan 30." The only purpose mentioned by Valdner for the separate charger assembly 54 is to recharge the rechargeable handle battery pack 44. Valdner makes absolutely no mention or suggestion of using the umbrella while the separate charger assembly 54 is connected. Valdner discloses no motivation to combine a large umbrella having a base support with a rechargeable electrical power source that is adapted to receive power from an AC power source.

On the other hand, the claimed invention is directed toward an umbrella apparatus having a base portion, a pole portion coupled to the base portion, a canopy portion hingedly coupled to the pole portion, a rechargeable electrical power system for providing electrical power to the umbrella, a solar energy system coupled to the rechargeable electrical power source, and an electrical charging system for recharging the rechargeable electrical power system, wherein the electrical charging system is adapted to receive power from an AC power outlet. Neither the WO 93/00840 application, Valdner, nor any other reference cited by the third-party requester or the Examiner teach, disclose, mention, suggest, or disclose a motivation to combine such a combination of features. This claimed electrical charging system allows the batteries to be recharged by either the solar energy system or an AC power source. In the claimed invention, the solar energy system does not directly drive the load. Rather, the rechargeable electrical power source drives the load, and the solar energy system recharges the rechargeable electrical power source.

In addition, in the claimed invention, the AC power source is not limited to merely powering the umbrella. Rather, an AC power source can be used to actually recharge the rechargeable batteries. Because the claimed umbrella is a large patio-type umbrella that requires some form of base support, the rechargeable electric power source may be recharged via the solar energy system or an AC power source while the umbrella is being used for its intended purpose. In other words, the claimed umbrella is used while it is supported in a generally stationary position, not while the user is walking down the street.

For these reasons, the Patent Owner submits that the Examiner's rejection of Claim 1 under 35 U.S.C. § 103(a) over Combination I has been traversed and overcome. As such, the Patent Owner respectfully requests that the Examiner reconsider her rejection of Claim 1 under 35 U.S.C. § 103(a), withdraw her rejection, and confirm Claim 1 as originally issued.

Combination II:

Claims 2 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Combination II. The Examiner states that WO 93/00840 discloses an umbrella apparatus having a base support portion 4, a pole portion 9 coupled to the base support portion, a canopy portion 8 coupled to the pole portion, a rechargeable electrical power system 3 for providing electrical power to the umbrella apparatus, a solar energy system 2 carried by the pole portion above the canopy portion, and an electrical charging system being adapted to receive power from a power outlet (power cord 14).

The Examiner concedes that WO 93/00840 fails to show a lighting system carried by the canopy portion and comprising a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power system. The Examiner states that these differences are obvious in light of the teachings of Phyle.

The Patent Owner reiterates here the distinguishing comments set forth above with respect to the WO 93/00840 application. Although WO 93/00840 appears to disclose a lighted umbrella with rechargeable batteries, WO 93/00840 does not disclose, teach, mention, suggest, or disclose a motivation for a lighting system carried by the canopy portion. The WO 93/00840 application only discloses locating the lights within either the base 4 or within the housing 12 located on the mast 9. The WO 93/00840 does not mention, disclose, or suggest placing a lighting system on the canopy portion. In the WO 93/00840 application, the accessories, such as "a diffuser for perfume or insect repellent, alarm, musical device" are placed within the housing 10 so as not to hinder the control of the canopy 8.

Furthermore, the solar collector 2 in the WO 93/00840 device must fold down when the canopy is in the down position. Because the solar collector 2 moves with the canopy 8, the solar collector 2 is ineffective for several reasons. First, when the solar collector 2 is folded down with the canopy 8, the material of the canopy 8 blocks and shades the sun from shining onto the solar collector 2, thereby preventing sunshine from hitting the solar collector 2. Second, even if parts of the solar collector 2 are

exposed when the canopy 8 is in the down position, the solar collector 2 is in a substantially vertical position, which is very ineffective for collecting solar energy. Third, the solar collector 2 is susceptible to damage from the canopy 8, the stays 15, the supports 24, the peripheral gutter, the flexible drain pipe, and other components of the umbrella 1, when the canopy 8 is repeatedly opened and closed.

Phyle discloses a battery-operated lighting apparatus suited for use with patio umbrellas. The Phyle device is basically a "snap-on," non-rechargeable, retrofit lighting system for existing patio umbrellas. In the Phyle device, a battery housing 10 is mounted to a support pole 20 below a canopy 2 and above a slide 26, so as not to interfere with the operation of the umbrella. One main feature of the Phyle device is a passageway 36 that passes through the battery housing 10 to accommodate the pole 20 and reduce the amount of space taken up by the battery housing 10 once the battery housing 10 is attached to the pole 20. In the Phyle device, a switch for activating the batteries is located in the same housing as the batteries.

The most distinguishing features between the Phyle device and the claimed invention is that the batteries in the Phyle device are not rechargeable and the Phyle device has no means to recharge the batteries. Phyle makes no mention, teaching, or suggestion of any kind to use a rechargeable electrical power system, a solar energy system to recharge the rechargeable electrical power system, or a lighting system coupled to and powered by the rechargeable electrical power system. The Phyle device is not compatible with a recharging system, because the battery housing is clamped to the upper end of the pole, where the battery housing is not easily accessible. Although Phyle discloses fluorescent lighting elements carried by the rib members of the canopy portion, the fluorescent lighting elements are not conductively coupled to and powered by a rechargeable electrical power source.

For these reasons, the Patent Owner submits that the Examiner's rejection of Claims 2 and 5 under 35 U.S.C. § 103(a) over Combination II has been traversed and overcome. As such the Patent Owner respectfully requests that the Examiner

reconsider her rejection of Claims 2 and 5 under 35 U.S.C. § 103(a), withdraw her rejection, and confirm Claims 2 and 5 as originally issued.

Combination III:

Claims 2 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Combination III. The Examiner states that Phyle discloses an umbrella apparatus having a base support portion (the patio table which does not carry a reference number), a pole portion 20 coupled to the base support portion, a canopy portion 2 hingedly coupled to the pole portion, a lighting system 12 carried by the canopy portion 2, the lighting system being conductively coupled to and powered by a electrical power system (batteries 60) and having a plurality of rib members 22 coupled to the canopy portion 2, and a plurality of fluorescent elements (108 as described on column 4, lines 32-38) carried by the rib members.

The Examiner concedes that Phyle fails to show a rechargeable electrical power system and a solar energy system integrated with lighting system 12. The Examiner states that these differences are obvious in light of the teachings of Valdner.

The Patent Owner reiterates here the distinguishing comments set forth above with respect to Phyle. To wit, Phyle discloses a battery-operated, "snap-on," lighting apparatus for use in retrofit applications with patio umbrellas, in which the batteries are non-rechargeable. In the Phyle device, a battery housing 10 is mounted to a support pole 20 below a canopy 2 and above a slide 26, so as not to interfere with the operation of the umbrella. The Phyle device requires a passageway 36 that passes through the battery housing 10 to accommodate the pole 20 and reduce the amount of space taken up by the battery housing 10 once the battery housing 10 is attached to the pole 20. In the Phyle device, a switch for activating the batteries is located in the same housing as the batteries.

The claimed invention is distinguished over the Phyle device by the fact that the batteries in the Phyle device are not rechargeable and the Phyle device has no means to recharge the batteries. Phyle makes no mention, teaching, or suggestion of any kind

to use a rechargeable electrical power system, a solar energy system to recharge the rechargeable electrical power system, or a lighting system coupled to and powered by the rechargeable electrical power system. The Phyle device is not compatible with a recharging system, because the battery housing is clamped to the upper end of the pole, where the battery housing is not easily accessible. Although Phyle discloses fluorescent lighting elements carried by the rib members of the canopy portion, the fluorescent lighting elements are not conductively coupled to and powered by a rechargeable electrical power source.

With respect to Valdner, the Patent Owner reiterates here the arguments set forth above which distinguish the claimed invention of the Valdner device. Valdner discloses a hand-held, air cooled umbrella. The Valdner umbrella includes flat ribs with holes to vent hot air from under the canopy. The hot air is vented by an electric fan powered by an electric motor built into a central rod. A solar cell panel mounted to the apex of the canopy provides power to the electric fan on hot sunny days. In addition, the Valdner umbrella includes a rechargeable handle battery pack that plugs into the bottom end of the handle to supply power to the electric fan on hot sunless days and at night when there is no solar energy available. The rechargeable handle battery pack may be charged utilizing a separate charger assembly having plugs for plugging into an AC power outlet. Valdner makes no mention, suggestion, or teaching of any kind related to a lighting system carried by the canopy portion of the umbrella that is powered by a rechargeable electrical power system.

There are several distinguishing features between the Valdner device and the claimed invention. The Valdner umbrella is not a large patio umbrella that requires a base support to keep the umbrella in an upright position. In fact, in referring to large umbrellas that people sit under, Valdner states at column 1, lines 14-17: "While these units may be suitable for the particular purpose to which they address, they would not be suitable for purposes of the present invention as heretofore described." Thus, Valdner expressly teaches away from large patio umbrellas that are adapted for use with base supports. Most importantly, Valdner does not include a lighting system carried by the canopy portion. The Valdner device is strictly an air cooled umbrella with

no provision for a lighting system. In the Valdner device, the canopy portion is adapted for venting hot air, not providing light. For these reasons, the Patent Owner submits that it would not be possible to arrive at the claimed invention by combining the teachings of Phyle and Valdner.

The claimed invention is directed toward an umbrella apparatus having a base portion, a pole portion coupled to the base portion, a canopy portion hingedly coupled to the pole portion, a rechargeable electrical power system for providing electrical power to the umbrella, a solar energy system coupled to the rechargeable electrical power source, and a lighting system carried by the canopy portion, and, in particular, a lighting system comprising fluorescent lighting elements. Neither Phyle, Valdner, nor any other reference cited by the third-party requester or the Examiner teach, disclose, mention, suggest, or disclose a motivation to combine such a combination of features. This unique combination of a solar energy system, a rechargeable electrical power source, and a lighting system powered by the rechargeable electrical power source simply was not known before the claimed invention. The Patent Owner respectfully submits that to contrive such a combination from the Phyle and Valdner references would require impermissible hindsight.

For these reasons, the Patent Owner submits that the Examiner's rejection of Claims 2 and 5 under 35 U.S.C. § 103(a) over Combination III has been traversed and overcome. As such the Patent Owner respectfully requests that the Examiner reconsider her rejection of Claims 2 and 5 under 35 U.S.C. § 103(a), withdraw her rejection, and confirm Claims 2 and 5 as originally issued.

Combination IV:

Claims 2 and 4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Combination IV. The Examiner states that WO 93/00840 discloses an umbrella apparatus having a base support portion 4, a pole portion 9 coupled to the base support portion, a canopy portion 8 coupled to the pole portion, a rechargeable electrical power system 3 for providing electrical power to the umbrella apparatus, and a solar energy system 2 carried by the pole portion above the canopy portion, the solar energy system

being conductively coupled to the rechargeable electrical power system (by electrical wires 22), for recharging the rechargeable electrical power source.

The Examiner concedes that WO 93/00840 fails to show a lighting system carried by the canopy portion and comprising a plurality of light emitting diode elements carried by the rib members, each light emitting diode element being conductively coupled to and powered by the rechargeable electrical power system. The Examiner states that these differences are obvious in light of the teachings of Pan et al.

With regard to the Pan et al. reference, the Patent Owner respectfully submits that patentable distinctions exist between Pan et al. and claims 2 and 4. However, filed herewith is a Declaration Under 37 C.F.R. § 1.131 in which the inventor swears behind the effective date of the Pan et al. reference, i.e., 13 November 2000. In addition a second Declaration Under 37 C.F.R. 1.131 from the Inventor's graphic designer is also being filed herewith. In light of these Declarations, the Patent Owner respectfully submits that Pan et al. may not be relied upon to reject Claims 2 and 4.

According to 37 C.F.R. § 1.131(a), "[w]hen any claim of an application or a patent under reexamination is rejected the inventor of the subject matter of the rejected claim, the owner of the patent under reexamination, ... may submit an appropriate oath or declaration to establish invention of the subject matter of the rejected claim prior to the effective date of the reference or activity on which the rejection is based." According to 37 C.F.R. § 1.131(b), "[t]he showing of facts shall be of such, in character and weight, as to establish reduction to practice prior to the effective filing date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to said date to a subsequent reduction to practice or to the filing of the application." As set forth at M.P.E.P. § 715.07, "when reviewing a 37 C.F.R. § 1.131 affidavit or declaration, the Examiner must consider all of the evidence presented in its entirety, including the affidavits or declarations and all accompanying exhibits, records and 'notes.'"

The attached Declarations Under 37 C.F.R. § 1.131 and supporting Exhibits establish that the inventor, Gregory G. Kuelbs, conceived and reduced to practice



Claims 2 and 4 prior to the effective filing date of Pan et al. Thus, Pan et al. may not be relied upon to reject Claims 2 and 4.

**Grounds of Rejection Raised by Requester:**

For the reasons set forth above, the Patent Owner submits that the rationale for the rejection of Claim 1 as being obvious over WO 93/00840 and Valdner as set forth in the Request is not well taken and should not be adopted. Therefore, the Patent Owner respectfully requests that the Examiner not adopt the rationale as proposed in the Request, and reconsider the rejection of Claim 1 in light of the remarks set forth herein.

With respect to the rationale for the rejection of Claim 2 as being obvious over Mueller et al. in view of Benton and further in view of Phyle as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

With regard to the fact that Benton was inadvertently not printed on the face of the subject patent, the Patent Owner hereby requests that the Benton reference be properly listed on the subject reexamination patent upon issuance.

For the reasons set forth above, the Patent Owner submits that the rationale for the rejection of Claim 2 as being obvious over WO 93/00840 in view of Phyle as set forth in the Request is not well taken and should not be adopted. Therefore, the Patent Owner respectfully requests that the Examiner not adopt the rationale as proposed in the Request, and reconsider the rejection of Claim 2 in light of the remarks set forth herein.

For the reasons set forth above, the Patent Owner submits that the rationale for the rejection of Claim 2 as being obvious over Phyle in view of Valdner as set forth in the Request is not well taken and should not be adopted. Therefore, the Patent Owner respectfully requests that the Examiner not adopt the rationale as proposed in the Request, and reconsider the rejection of Claim 2 in light of the remarks set forth herein.

With respect to the rationale for the rejection of Claim 5 as being obvious over Mueller et al. in view of Benton and further in view of Phyle as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

For the reasons set forth above, the Patent Owner submits that the rationale for the rejection of Claim 5 as being obvious over WO 93/00840 in view of Phyle as set forth in the Request is not well taken and should not be adopted. Therefore, the Patent Owner respectfully requests that the Examiner not adopt the rationale as proposed in the Request, and reconsider the rejection of Claim 5 in light of the remarks set forth herein.

For the reasons set forth above, the Patent Owner submits that the rationale for the rejection of Claim 5 as being obvious over Phyle in view of Valdner as set forth in the Request is not well taken and should not be adopted. Therefore, the Patent Owner respectfully requests that the Examiner not adopt the rationale as proposed in the Request, and reconsider the rejection of Claim 5 in light of the remarks set forth herein.

With respect to the rationale for the rejection of Claim 3 as being obvious over Mueller et al. in view of Benton and further in view of Phyle as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

With respect to the rationale for the rejection of Claim 3 as being obvious over WO 93/00840 in view of Phyle as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

With respect to the rationale for the rejection of Claim 3 as being obvious over Phyle in view of Valdner as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

With respect to the rationale for the rejection of Claim 4 as being obvious over Mueller et al. in view of Benton and further in view of Phyle as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

With respect to the rationale for the rejection of Claim 4 as being obvious over WO 93/00840 in view of Phyle as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

With respect to the rationale for the rejection of Claim 4 as being obvious over Phyle in view of Valdner as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

**Confirmation of Claims:**

The Patent Owner acknowledges the Examiner's thorough review of the Request and the prior-art references and appreciates the Examiner's confirmation of Claims 3 and 6-14.

**Proof of Service:**

Pursuant to 37 C.F.R. § 1.903, a true and correct copy of this Response, including all attachments, exhibits, and Declarations in support thereof, has been served on the third-party requester. Pursuant to 37 C.F.R. § 1.248(a)(4), the undersigned hereby certifies that a true and correct copy of this Response to Order Granting *Inter Partes* Reexamination and Office Action in *Inter Partes* Reexamination was served on the third-party requester's attorney of record, Robert E. Richards, by First Class Mail with sufficient postage at Kilpatrick Stockton LLP, 1100 Peachtree Street, Suite 2800, Atlanta, Georgia 30309.

N/E -  
No date  
of  
service

**Conclusion:**

Claims 1-14 are currently pending in the patent. Reexamination was requested only of Claims 1-5; however, Claims 1-14 were reexamined. Claims 3 and 6-14 stand confirmed. New Claims 15-44 are hereby added.

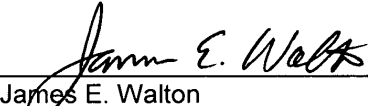
Enclosed is a check in the amount of \$2,800.00 to cover the cost of 30 new claims, which includes 22 independent claims in excess of three (\$100.00 x 22 = \$2,200.00) and 24 claims in excess of twenty (\$25.00 x 24 = \$600.00). No other fees are deemed to be necessary; however, the undersigned hereby authorizes the Director to charge any additional fees that may be required, or credit any overpayments, to **Deposit Account No. 502806**.

**Please link this reexamination application to Customer Nos. 50779 and 38441 so that its status may be checked via the PAIR System.**

Respectfully submitted,

Date

11/18/05

  
James E. Walton  
Reg. No. 47,245  
Brian E. Harris  
Reg. No. 48,383  
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**CUSTOMER NOS. 50779 and 38441**

ATTORNEYS AND AGENTS FOR PATENTEE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0664MH-40982-REX

In re Reexamination of:

**GREGORY G. KUELBS**

Control No. 95/000,104

Patent No. 6,612,713

Issued: 2 SEPTEMBER 2003

For: **UMBRELLA APPARATUS**

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Examiner: **MARGARET WAMBACH**

Art Unit: 3992

DECLARATION UNDER 37 C.F.R. § 1.131

**MAIL STOP: INTER PARTES REEXAM**  
Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450



Sir:

I, Gregory G. Kuelbs, declare as follows:

1. I am over eighteen years of age and am competent to make this Declaration.
2. I am the sole inventor of the subject patent.
3. I conceived of the claimed invention and reduced it to practice in the United States prior to 13 November 2000.
4. In the fall of 2000, I was engaged in developing a variety of solar-powered lighting products that incorporated LED's, and was therefore familiar with the advantages of pairing LED technology with solar technology. Attached hereto as Exhibits A, B, and C are drawings of the claimed invention as drawn by Rodney S. Quillen, a graphic artist



working under my direction in the United States, prior to 13 November 2000. These drawings show strands of small LEDs attached to the ribs of a solar umbrella.

5. My company transmitted Exhibits A, B, and C to its patent attorney, Melvin Hunn, via facsimile on 9 November 2000 for use in preparing and filing a U.S. provisional patent application covering my invention.

6. The provisional patent application, titled "Lighted Patio Umbrella Apparatus," was prepared by Melvin Hunn and filed on 7 February 2001. The provisional application was accorded U.S. Provisional Patent Application No. 60/267,018. The subject patent claims priority to U.S. Provisional Patent Application No. 60/267,018.

7. Attached hereto as Exhibits D, E, and F are Figures 1, 2A, 2B, 2C, 3A, 3B, and 3C of Provisional Application Serial No. 60/267,018. Melvin Hunn used the drawings that my company sent to him by facsimile on 9 November 2000 (Exhibits A, B, and C) as the basis for Figures 1, 2A, 2B, 2C, 3A, 3B, and 3C (Exhibits D, E, and F) of U.S. Provisional Application Serial No. 60/267,018. The facsimile headers on Exhibits D, E, and F, clearly indicate that the drawings were sent via facsimile from my company, Worldwide (now known as World Factory, Inc.), to Melvin Hunn on 9 November 2000.

8. Furthermore, I conceived of the claimed invention in the United States prior to 13 November 2000, and worked diligently on the invention in the United States from a date prior to 13 November 2000, through the filing date of U.S. Provisional Application No. 60/267,018, i.e., 7 February 2001.

9. I worked diligently as a part of my full-time employment on further developing a marketable solar umbrella with LED lights, and performing other work related to the claimed invention, during the time period from prior to 13 November 2000 through 7 February 2001, the filing date of U.S. Provisional Application No. 60/267,018, and beyond.

10. In addition, I conceived of the claimed invention in the United States prior to 13 November 2000, and worked diligently on the invention in the United States from a

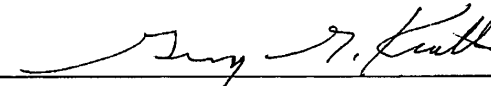
date prior to 13 November 2000 through 2 November 2001, the filing date of U.S. Provisional Application No. 60/335,933.

11. On 2 November 2001, my patent attorney filed a second provisional application, U.S. Provisional Application No. 60/335,933, titled "Improved Outdoor Lighting Systems with Cold Cathode Tubes," which covered my invention of the solar-powered umbrella with LED lights, as well as other embodiments. The subject patent also claims priority to U.S. Provisional Application No. 60/335,933.

12. Figures 1, 2A, 2B, 2C, 3A, 3B, and 3C of U.S. Provisional Application No. 60/335,933 are identical to Exhibits D, E, and F.

13. I worked diligently as a part of my full-time employment on further developing a marketable solar umbrella with LED lights, and performing other work related to the claimed invention, during the time period from prior to 13 November 2000 through 2 November 2001, the filing date of U.S. Provisional Application No. 60/335,933.

14. All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further, these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Inventor's Signature:   
Date of Signature: 11-10-05  
Full Name of Inventor: Gregory G. Kuelbs  
Residence and  
Post Office Address: 1831 River Oaks Drive  
Westlake, Texas 76262  
Citizenship: United States of America

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0664MH-40982-REX

In re Reexamination of:

**GREGORY G. KUELBS**

Control No. 95/000,104

Patent No. 6,612,713

Issued: 2 SEPTEMBER 2003

For: **UMBRELLA APPARATUS**

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Examiner: **MARGARET WAMBACH**

Art Unit: 3992

DECLARATION UNDER 37 C.F.R. § 1.131

**MAIL STOP: INTER PARTES REEXAM**  
Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450



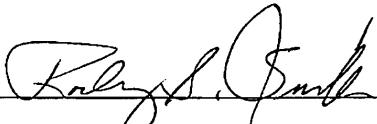
Sir:

I, Rodney S. Quillen, declare as follows:

1. I am over eighteen years of age and am competent to make this Declaration.
2. I have been employed in the United States since on or about June 14, 2000 as a graphic designer for Worldwise Co./World Factory, Inc. In this capacity I have worked with Gregory G. Kuelbs, the sole inventor of the subject patent.
3. Attached hereto as Exhibits A, B, and C are drawings of Gregory G. Kuelb's invention, drawn by me under the direction of Gregory G. Kuelbs prior to 13 November 2000. These drawings show the placement of strands of LEDs attached to the ribs of a solar umbrella as discussed at that time with Gregory G. Kuelbs.

5. Attached hereto as Exhibit G is a screen shot of a file directory on my computer showing the file "Name" and "Date Modified" of the computer files that correspond to Exhibits A, B, and C: "Lighted Umbrella.eps", "Lighted umbrella & stand18V.eps", and "Lighted umbrella and stand.eps", respectively. As set forth in the column labeled "Date Modified" these computer files were all last modified on 23 October 2000 as indicated by the listing "Mon, Oct 23, 2000 . . .," which is consistent with my own knowledge that I had worked on this project prior to November 2000.

6. All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further, these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Declarant's Signature: 

Date of Signature: November 17, 2005

Full Name of Declarant: Rodney S. Quillen

Residence and  
Post Office Address: 2342 Kingswood Dr.  
Dallas, TX 75228

Citizenship: United States of America

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0664MH-40982-REX

In re Reexamination of:

**GREGORY G. KUELBS**

Control No. **95/000,104**

Patent No. **6,612,713**

Issued: **2 SEPTEMBER 2003**

For: **UMBRELLA APPARATUS**

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Examiner: **MARGARET WAMBACH**

Art Unit: **3992**

INFORMATION DISCLOSURE STATEMENT

**MAIL STOP: INTER PARTES REEXAM**

Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450



Sir:

In accordance with 37 C.F.R. §1.56, the reference listed below and on the attached form PTO/SB/08A (substitute for PTO-1449) is being brought to the attention of the Examiner for consideration in connection with the reexamination of the subject patent. A copy of the cited document is enclosed.

<b>CERTIFICATE OF EXPRESS MAIL UNDER 37 C.F.R. § 1.8(a)</b>	
Date of Deposit:	<u>11/18/05</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail with sufficient postage under 37 C.F.R. §1.8(a) on the date indicated above and is addressed to Mail Stop: Inter Partes Reexam, Central Reexamination Unit, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.	
By:	

The filing of this Information Disclosure Statement shall not be construed to be a representation that a search has been conducted, nor shall it be construed as an admission that the information cited in the statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

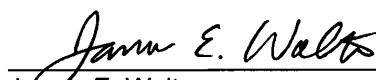
It is respectfully requested that the Examiner return a copy of the attached form PTO/SB/08A with initials or other appropriate marks indicating consideration of the cited materials.

Enclosed is a check in the amount of \$2,800.00 to cover the cost of 30 new claims, which includes 22 independent claims in excess of three ( $\$100.00 \times 22 = \$2,200.00$ ) and 24 claims in excess of twenty ( $\$25.00 \times 24 = \$600.00$ ). No other fees are deemed to be necessary; however, the undersigned hereby authorizes the Director to charge any additional fees that may be required, or credit any overpayments, to **Deposit Account No. 502806**.

**Please link this reexamination application to Customer Nos. 50779 and 38441 so that its status may be checked via the PAIR System.**

Respectfully submitted,

11/18/05  
Date

  
\_\_\_\_\_  
James E. Walton  
Reg. No. 47,245  
Brian E. Harris  
Reg. No. 48,383  
Law Offices of James E. Walton, P.L.L.C.  
1169 N. Burleson Blvd., Suite 107-328  
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jim@waltonpllc.com

**CUSTOMER NOS. 50779 and 38441**

ATTORNEYS AND AGENTS FOR PATENTEE





UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450  
www.uspto.gov

CONTROL NO.	FILING DATE	PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
95/000104	08/12/2005	6612713	

LAW OFFICES OF JAMES E. WALTON, PLLC  
1169 N. BURLESON BLVD.  
SUITE 107-328  
BURLESON TX 76028

EXAMINER
Margaret Wambach

ART UNIT	PAPER
3992	

DATE MAILED:

12/05/05

### INTER PARTES REEXAMINATION COMMUNICATION

BELOW/ATTACHED YOU WILL FIND A COMMUNICATION FROM THE UNITED STATES PATENT AND TRADEMARK OFFICE OFFICIAL(S) IN CHARGE OF THE PRESENT REEXAMINATION PROCEEDING.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this communication.





UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**DO NOT USE IN PALM PRINTER**

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

Kilpatrick Stockton LLP  
1100 Peachtree St Ste 2800  
Atlanta, GA 30309

**Transmittal of Communication to Third Party Requester  
*Inter Partes* Reexamination**

REEXAMINATION CONTROL NUMBER 95/000,104.

PATENT NUMBER 6,612,713.

TECHNOLOGY CENTER 3900.

ART UNIT 3992.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

<b>NOTICE RE DEFECTIVE PAPER IN INTER PARTES REEXAMINATION</b>	<b>Control No.</b>	<b>Patent Under Reexamination</b>	
	95/000,104	6612713	
	<b>Examiner</b>	<b>Art Unit</b>	
	Margaret Wambach	3992	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --**

1.  No proof of service is included with the paper filed by  patent owner  requester on \_\_\_\_\_. 37 CFR 1.248 and 1.903. Proof of service is required within a time period of 30-days or one month from the date of this letter, whichever is longer. Failure to serve the paper may result in the paper being refused consideration. If the failure to comply with this requirement results in a patent owner failure to file a timely and appropriate response to any Office action, the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.957(b) or limited under 37 CFR 1.957(c) (as is appropriate for the case).
2.  The paper filed on \_\_\_\_\_ by the  patent owner  requester is unsigned. A duplicate paper or ratification, properly signed, is required within a time period of 30-days or one month from the date of this letter, whichever is longer. Failure to comply with this requirement will result in the paper not being considered. If the failure to comply results in a patent owner failure to file a timely and appropriate response to any Office action, the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.957(b) or limited under 37 CFR 1.957(c) (as is appropriate for the case).
3.  The paper filed on \_\_\_\_\_ by the  patent owner  requester is signed by \_\_\_\_\_ who is not of record. A ratification or a new power of attorney with a ratification, or a duplicate paper signed by a person of record, is required within a time period of 30-days or one month from the date of this letter, whichever is longer. Failure to comply with this requirement will result in the paper not being considered. If the failure to comply results in a patent owner failure to file a timely and appropriate response to any Office action, the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.957(b) or limited under 37 CFR 1.957(c) (as is appropriate for the case).
4.  The amendment filed by patent owner on 21 November 2005, does not comply with 37 CFR 1.530. Patent owner is given a time period of 30-days or one month from the date of this letter, whichever is longer, to correct this informality, or the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.957(b) or limited under 37 CFR 1.957(c) (as is appropriate for the case). The amendment will not be entered, although the argument the rein will be considered as it applies to the proceeding without the amendment should the prosecution be limited under 37 CFR 1.957(c).
5.  The amendment filed by patent owner on \_\_\_\_\_, does not comply with 37 CFR 1.20(c)(3) and/or 1.20(c)(4), as to excess claim fees. Patent owner is given a time period of 30-days or one month from the date of this letter, whichever is longer, to correct this fee deficiency, or the prosecution of the reexamination proceeding will be terminated under 37 CFR 1.957(b) or limited under 37 CFR 1.957(c) (as is appropriate for the case), to effect the "abandonment" set forth in 37 CFR 1.20(c)(5).
6.  Other: See attachment.

**NOTE: PATENT OWNER EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.956. NO EXTENSION OF TIME IS PERMITTED FOR THIRD PARTY REQUESTER. 35 U.S.C. § 314(b)(2).**

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

## ATTACHMENT TO PTOL-2069

The Amendment in response to the Office Action mailed on 09/28/05 is not proper for the following reasons:

- There is no statement of support for newly added claim nos. 15 through 44. 37 CFR 1.530(e) states:

*(e) Status of claims and support for claim changes.* Whenever there is an amendment to the claims pursuant to paragraph (d) of this section, there must also be supplied, on pages separate from the pages containing the changes, the status (*i.e.*, pending or canceled), as of the date of the amendment, of all patent claims and of all added claims, and an explanation of the support in the disclosure of the patent for the changes to the claims made by the amendment paper.

- Newly added claims 15 through 44 are not underlined. 37 CFR 1.530(f)(1) and (2) state:

*(f) Changes shown by markings.* Any changes relative to the patent being reexamined which are made to the specification, including the claims, must include the following markings:

(1) The matter to be omitted by the reexamination proceeding must be enclosed in brackets; and

(2) The matter to be added by the reexamination proceeding must be underlined.

- The Certificate of Service provided does not have the date of service on the Third Party Requester. (See 37 CFR 1.903 and 37 CFR 1.248). 37 CFR 1.248 (b) states:

*(b) Papers filed in the Patent and Trademark Office which are required to be served shall contain proof of service. Proof of service may appear on or be affixed to papers filed. Proof of service shall include the date and manner of service. In the case of personal service, proof of service shall also include the name of any person served, certified by the person who made service.*

YOT-1003-0355

**I. For *Inter Partes* Reexamination communications**

Please mail any communications to:

Attn: Mail Stop "Inter Partes Reexam"  
Central Reexamination Unit  
Commissioner for Patents  
P. O. Box 1450  
Alexandria VA 22313-1450

Please FAX any communications to:

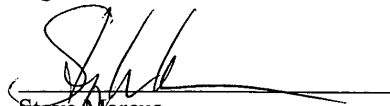
(571) 273-9900  
Central Reexamination Unit

Please hand-deliver any communications to:

Customer Service Window  
Attn: Central Reexamination Unit  
Randolph Building, Lobby Level  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Reexamination Legal Advisor, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

Signed:

  
Steve Marcus  
Legal Advisor  
Office of Patent Legal Administration  
(571) 272-7743

YOT-1003-0356



JOEAM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0664MH-40982-REX

B

In re Reexamination of:

**GREGORY G. KUELBS**

Examiner: **MARGARET WAMBACH**

Control No. **95/000,104**

Patent No. **6,612,713**

Issued: **2 SEPTEMBER 2003**

Art Unit: **3992**

For: **UMBRELLA APPARATUS**

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**TRANSMITTAL**

**MAIL STOP: INTER PARTES REEXAM**

Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450



Sir:

Please file the following documents in the subject reexamination application:

1. This Transmittal with Certificate of Mailing;
2. Response to Notice Re Defective Paper in *Inter Partes* Reexamination and Response to Order Granting *Inter Partes* Reexamination and Office Action in *Inter Partes* Reexamination; and

<b>CERTIFICATE OF EXPRESS MAIL UNDER 37 C.F.R. § 1.8(a)</b>	
Date of Deposit:	<u>12/12/05</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail with sufficient postage under 37 C.F.R. §1.8(a) on the date indicated above and is addressed to Mail Stop: Inter Partes Reexam, Central Reexamination Unit, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.	
By:	<u>Jimm E. Watts</u>

3. Our return postcard which we would appreciate you date stamping and returning to us.

**Please link this reexamination application to Customer Nos. 50779 and 38441 so that its status may be checked via the PAIR System.**

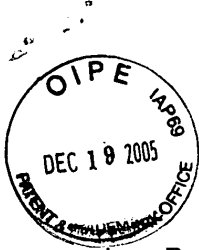
Respectfully submitted,

12/12/05  
Date

James E. Walton  
James E. Walton  
Reg. No. 47,245  
Brian E. Harris  
Reg. No. 48,383  
Law Offices of James E. Walton, P.L.L.C.  
1169 N. Burleson Blvd., Suite 107-328  
Burleson, Texas 76028  
(817) 447-9955 (Voice)  
(817) 447-9954 (Facsimile)  
jim@waltonpllc.com

**CUSTOMER NOS. 50779 and 38441**

ATTORNEYS AND AGENTS FOR PATENTEE



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0664MH-40982-REX B

In re Reexamination of:

**GREGORY G. KUELBS**

Control No. **95/000,104**

Patent No. **6,612,713**

Issued: **2 SEPTEMBER 2003**

For: **UMBRELLA APPARATUS**

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Examiner: **MARGARET WAMBACH**

Art Unit: **3992**

**RESPONSE TO NOTICE RE DEFECTIVE PAPER IN  
INTER PARTES REEXAMINATION AND RESPONSE TO  
ORDER GRANTING *INTER PARTES* REEXAMINATION AND  
OFFICE ACTION IN *INTER PARES* REEXAMINATION**

**MAIL STOP: INTER PARTES REEXAM**

Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450



Sir:

This Response to Notice Re Defective Paper in *Inter Partes* Reexamination and Response to Order Granting *Inter Partes* Reexamination and Office Action in *Inter Partes* Reexamination is being filed in response to the Notice Re Defective Paper in *Inter Partes* Reexamination that was mailed to the undersigned on 5 December 2005.

<b>CERTIFICATE OF EXPRESS MAIL UNDER 37 C.F.R. § 1.8(a)</b>	
Date of Deposit:	<u>12/12/05</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail with sufficient postage under 37 C.F.R. §1.8(a) on the date indicated above and is addressed to Mail Stop: Inter Partes Reexam, Central Reexamination Unit, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.	
By:	<u>Jan E. Wells</u>

**Remarks:**

Claims 1-14 are currently pending in the patent. Reexamination was requested only of Claims 1-5; however, Claims 1-14 were reexamined. Claims 3 and 6-14 stand confirmed. New Claims 15-44 were submitted with the Patent Owner's initial Response to Order Granting *Inter Partes* Reexamination and Office Action in *Inter Partes* Reexamination filed 18 November 2005. Claims 15-44 were not entered. Claims 15-44 are hereby cancelled. New Claims 45-74 are hereby submitted.

Declarations Under 37 C.F.R. § 1.131 of Gregory G. Kuelbs and Rodney S. Quillen, including exhibits were filed with the Patent Owner's initial Response on 18 November 2005. Those Declarations are not resubmitted herewith, but the Patent Owner relies upon them and requests that they be filed, entered, and considered in connection with this Response.

An Information Disclosure Statement, Form PTO/SB/08A, including copies of the cited references, was filed with the Patent Owner's initial Response on 18 November 2005. That Information Disclosure Statement is not resubmitted herewith, but the Patent Owner requests that it be filed, entered, and considered in connection with the subject Reexamination.

The Patent Owner respectfully submits that this Response to Notice Re Defective Paper in *Inter Partes* Reexamination and Response to Order Granting *Inter Partes* Reexamination and Office Action in *Inter Partes* Reexamination addresses and overcomes all of the informalities noted in the Notice Re Defective Paper.

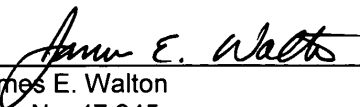
A check in the amount of \$2,800.00 to cover the cost of 30 new claims, which includes 22 independent claims in excess of three ( $\$100.00 \times 22 = \$2,200.00$ ) and 24 claims in excess of twenty ( $\$25.00 \times 24 = \$600.00$ ) was filed with the Patent Owner's initial Response. Therefore, no fees are deemed to be necessary; however, the undersigned hereby authorizes the Director to charge any additional fees that may be required, or credit any overpayments, to **Deposit Account No. 502806**.



Please link this reexamination application to Customer Nos. 50779 and 38441  
so that its status may be checked via the PAIR System.

Respectfully submitted,

12/12/05  
Date

  
James E. Walton  
Reg. No. 47,245  
Brian E. Harris  
Reg. No. 48,383  
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(817) 447-9954 (Facsimile)  
jim@waltonpllc.com

**CUSTOMER NOS. 50779 and 38441**

ATTORNEYS AND AGENTS FOR PATENTEE

**Prior or Concurrent Proceedings:**

There has been no change in the Prior or Concurrent Proceedings since the Patent Owner filed his original Response to Order and Office Action on 18 November 2005.

Pursuant to 37 C.F.R. § 1.985, the Patent Owner hereby calls to the attention of the Examiner the following litigation proceedings that involve the subject patent:

1. Civil Action No. 4:05-CV-00373, *World Factory, Inc. v. Southern Sales & Marketing Group, Inc.*, United States District Court for the Northern District of Texas, Fort Worth Division. This case was filed on 13 June 2005 and is currently pending. A copy of the Summons and Complaint has not been served on Southern Sales & Marketing Group, Inc.

2. Civil Action No. 4:05-CV-374-A, *World Factory, Inc. v. Bond Manufacturing Co.*, United States District Court for the Northern District of Texas, Fort Worth Division. This case was filed on 13 June 2005 and is currently pending. A copy of the Summons and Complaint has not been served on Bond Manufacturing Co.

The Patent Owner is not aware of any other litigation proceedings involving the subject patent.

**Substantial New Question of Patentability:**

There has been no change in the Substantial New Question of Patentability Section since the Patent Owner filed his original Response to Order and Office Action on 18 November 2005.

Claims 1-14 are currently pending in the subject patent. The third-party requester requested reexamination of Claims 1-5.

As set forth in the Order Granting *Inter Partes* reexamination, the Examiner found that a substantial new question of patentability has been raised with respect to Claims 1-5.

The third-party requester failed to show that a substantial new question of patentability is raised with respect to Claims 3 and 4 by the references submitted by the third-party requester. However, the Examiner rejected Claim 4 based upon a rejection not proposed in the request. As such, Claims 1, 2, 4, and 5 stand rejected under 35 U.S.C. § 103(a). As such, Claims 1-5 were reexamined. As set forth in the Order, Claims 6-14 were also reexamined.

Claims 3 and 6-14 stand confirmed.

**In the Claims:**

Claims 1-14 are not hereby amended. Claims 15-44, which were submitted with the Patent Owner's 18 November 2005 Response, are hereby cancelled. The Patent Owner hereby submits new Claims 45-74. New Claims 45-74 correspond to canceled Claims 15-44.

The Patent Owner submits that the following amendments add no new matter to the application and do not broaden the scope of the application.

Statements of support for each new claim are set forth below.

Please amend the claims as follows:

---

45. A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;

and

an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet;

wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing.

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46. A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;

and

an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet;

wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion above the canopy portion.

47. A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion, the canopy portion being operable between an open position and a closed position;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;

and

an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet;

wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion such that the housing is fixed relative to the pole portion when the canopy is operated between the opened position and the closed position.

48. A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion, the canopy portion being operable between an open position and a closed position;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;

and

an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet;

wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion such that the housing is fixed relative to the pole portion when the canopy is operated between the opened position and the closed position, and the common housing is disposed at least partially above the canopy portion.

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49. An umbrella apparatus, comprising:  
\_\_\_\_\_ a base support portion;  
\_\_\_\_\_ a pole portion coupled to the base support portion;  
\_\_\_\_\_ a canopy portion having a plurality of rib members, the canopy portion being hingedly coupled to the pole portion;  
\_\_\_\_\_ a rechargeable electrical power system for providing electrical power to the umbrella apparatus;  
\_\_\_\_\_ a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
and  
\_\_\_\_\_ a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;  
\_\_\_\_\_ wherein the lighting system includes multiple discrete lighting elements positioned along a rib member.

50. The umbrella apparatus according to claim 49, wherein the lighting system includes multiple discrete lighting elements along each rib member.

51. The umbrella apparatus according to claim 49, wherein each lighting element is at least partially recessed within the corresponding rib member.

52. The umbrella apparatus according to claim 49, wherein each lighting element is fully recessed within the corresponding rib member.

53. The umbrella apparatus according to claim 52, further comprising:  
\_\_\_\_\_ a translucent cover over the lighting elements.

54. The umbrella apparatus of claim 49, wherein the multiple discrete lighting elements are each an LED.

55. The umbrella apparatus according to claim 51, further comprising:  
wires for conductively coupling the lighting elements to the rechargeable electrical power source, the wires being at least partially recessed within the rib members.

56. An umbrella apparatus, comprising:  
a base support portion;  
a pole portion coupled to the base support portion;  
a canopy portion having a plurality of rib members, the canopy portion being hingedly coupled to the pole portion;  
a rechargeable electrical power system for providing electrical power to the umbrella apparatus;  
a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;  
a plurality of lighting elements carried by the rib members, each lighting element being conductively coupled to and powered by the rechargeable electrical power source; and  
wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion above the canopy portion.

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57. A patio umbrella apparatus, comprising:

- a base support portion;
- a pole portion coupled to the base support portion;
- a canopy portion hingedly coupled to the pole portion;
- a crank housing coupled to the pole portion, the crank housing being adapted to partially house a system for opening and closing the canopy portion;
- a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
- a switch disposed in the crank housing for controlling the provision of electrical power from the rechargeable electrical power system;
- a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;
- and
- an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet.

58. The patio umbrella apparatus according to claim 57, further comprising:

- a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system.

59. An umbrella apparatus, comprising:

- a pole portion adapted for use with a supportive base portion;
- a base support portion for supporting the umbrella apparatus in an upright orientation;
- a canopy portion hingedly coupled to the pole portion;
- a crank housing coupled to the pole portion, the crank housing being adapted to partially house a system for opening and closing the canopy portion;

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\_\_\_\_\_ a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

\_\_\_\_\_ a switch disposed in the crank housing for controlling the provision of electrical power from the rechargeable electrical power system;

\_\_\_\_\_ a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
and

\_\_\_\_\_ a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;

\_\_\_\_\_ wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion such that the housing is fixed relative to the pole portion when the canopy is operated between the opened position and the closed position.

60. An umbrella apparatus, comprising:

\_\_\_\_\_ a base support portion;

\_\_\_\_\_ a pole portion coupled to the base support portion;

\_\_\_\_\_ a canopy portion having a plurality of rib members, the canopy portion being hingedly coupled to the pole portion;

\_\_\_\_\_ a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

\_\_\_\_\_ a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
and

\_\_\_\_\_ a lighting system carried by the canopy portion, the lighting system being

conductively coupled to and powered by the rechargeable electrical power system;  
wherein the lighting system includes a plurality of lighting elements, each lighting element being at least partially recessed within a corresponding rib member and each lighting element being conductively coupled by a conductor disposed within a corresponding rib member.

61. An umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion having a plurality of rib members, the canopy portion being hingedly coupled to the pole portion;

a housing mounted atop the pole portion and above the canopy portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus, the rechargeable electrical power system being disposed within the housing;

a solar energy system for collecting solar energy and converting the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system, the solar energy system being disposed within the housing; and

a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system and having a plurality of lighting elements, each lighting element being at least partially recessed within a corresponding rib member and being conductively coupled to the rechargeable electrical power system via a conductor disposed within the corresponding rib member.

62. An umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion having a plurality of rib members, the canopy portion being

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hingedly coupled to the pole portion;

\_\_\_\_\_ a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

\_\_\_\_\_ a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;

and

\_\_\_\_\_ a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;

\_\_\_\_\_ wherein the lighting system includes a plurality of light emitting diodes, each light emitting diode being at least partially recessed within a corresponding rib member and each light emitting diode being conductively coupled by a conductor disposed within a corresponding rib member.

63. An umbrella apparatus, comprising:

\_\_\_\_\_ a base support portion adapted to maintain the umbrella in an upright position;

\_\_\_\_\_ a pole portion coupled to the base support portion;

\_\_\_\_\_ a canopy portion hingedly coupled to the pole portion;

\_\_\_\_\_ a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

\_\_\_\_\_ a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;

and

\_\_\_\_\_ a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;

\_\_\_\_\_ wherein the rechargeable electrical power system and the solar energy system

are disposed in a common housing.

64. A patio umbrella apparatus, comprising:

- a base support portion;
- a pole portion coupled to the base support portion;
- a canopy portion hingedly coupled to the pole portion;
- a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
- a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;
- and
- a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;
- wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion above the canopy portion.

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65. A patio umbrella apparatus, comprising:

- a base support portion;
- a pole portion coupled to the base support portion;
- a canopy portion hingedly coupled to the pole portion, the canopy portion being operable between an open position and a closed position;
- a rechargeable electrical power system for providing electrical power to the umbrella apparatus;
- a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and

converted into electrical energy recharges the rechargeable electrical power system;

and

\_\_\_\_\_ a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;

\_\_\_\_\_ wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion such that the housing is fixed relative to the pole portion when the canopy is operated between the opened position and the closed position.

66. A patio umbrella apparatus, comprising:

\_\_\_\_\_ a base support portion;

\_\_\_\_\_ a pole portion coupled to the base support portion;

\_\_\_\_\_ a canopy portion hingedly coupled to the pole portion, the canopy portion being operable between an open position and a closed position;

\_\_\_\_\_ a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

\_\_\_\_\_ a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;

and

\_\_\_\_\_ a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;

\_\_\_\_\_ wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion such that the housing is fixed relative to the pole portion when the canopy is operated between the opened position and the closed position, and the common housing is disposed at least partially above the canopy portion.

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67. A patio umbrella apparatus, comprising:

- a base support portion;
- a pole portion coupled to the base support portion;
- a canopy portion hingedly coupled to the pole portion;
- a rechargeable electrical power system disposed in a housing for providing electrical power to the umbrella apparatus;
- a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system, the solar energy system also being disposed in the housing;
- a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system; and
- a switch located remote from the housing for controlling provision of electrical power from the rechargeable electrical power system.

68. A patio umbrella apparatus, comprising:

- a base support portion;
- a pole portion coupled to the base support portion;
- a canopy portion hingedly coupled to the pole portion;
- a rechargeable electrical power system disposed in a housing for providing electrical power to the umbrella apparatus;
- a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system, the solar energy system also being disposed in the housing;
- a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system; and

\_\_\_\_\_ a switch located below the housing for controlling provision of electrical power from the rechargeable electrical power system.

69. A patio umbrella apparatus, comprising:

\_\_\_\_\_ a base support portion;

\_\_\_\_\_ a pole portion coupled to the base support portion;

\_\_\_\_\_ a canopy portion hingedly coupled to the pole portion;

\_\_\_\_\_ a rechargeable electrical power system disposed in a housing for providing electrical power to the umbrella apparatus;

\_\_\_\_\_ a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system, the solar energy system also being disposed in the housing;

\_\_\_\_\_ a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system; and

\_\_\_\_\_ a switch located on the pole portion for controlling provision of electrical power from the rechargeable electrical power system.

70. An umbrella apparatus, comprising:

\_\_\_\_\_ a base support portion;

\_\_\_\_\_ a pole portion coupled to the base support portion;

\_\_\_\_\_ a canopy portion being hingedly coupled to the pole portion, the canopy portion having a plurality of rib members, each rib member having a recessed longitudinal channel;

\_\_\_\_\_ a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

\_\_\_\_\_ a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the

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rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
\_\_\_\_\_ a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system;  
\_\_\_\_\_ a plurality of lighting elements carried by the rib members, each lighting element being disposed within the channel and being conductively coupled to and powered by the rechargeable electrical power source; and  
\_\_\_\_\_ wherein the rechargeable electrical power system and the solar energy system are disposed in a common housing carried by the pole portion above the canopy portion.

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71. The umbrella apparatus according to claim 70, further comprising:  
\_\_\_\_\_ a transparent cover disposed over each channel.

72. An umbrella apparatus, comprising:  
\_\_\_\_\_ a base support portion;  
\_\_\_\_\_ a pole portion coupled to the base support portion;  
\_\_\_\_\_ a canopy portion being hingedly coupled to the pole portion, the canopy portion having a plurality of rib members;  
\_\_\_\_\_ a rechargeable electrical power system for providing electrical power to the umbrella apparatus;  
\_\_\_\_\_ a solar energy system carried by the pole portion above the canopy portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system;  
and  
\_\_\_\_\_ a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system wherein the lighting system, comprises:  
\_\_\_\_\_ a plurality of discrete lighting elements carried by each rib member;

wherein each discrete lighting element is conductively coupled to and powered by the rechargeable electrical power source.

73. A patio umbrella apparatus, comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried atop the pole portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet.

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74. An umbrella apparatus comprising:

a base support portion;

a pole portion coupled to the base support portion;

a canopy portion hingedly coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus;

a solar energy system carried atop the pole portion, the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system; and

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a lighting system carried by the canopy portion, the lighting system being  
conductively coupled to and powered by the rechargeable electrical power system.

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**Rejections Under 35 U.S.C. § 103:**

Claims 1, 2, 4, and 5 stand rejected under 35 U.S.C. § 103(a). The rejections are grouped into four combinations of prior art: Combination I (WO 93/00840 and Valdner); Combination II (WO 93/00840 and Phyle); Combination III (Phyle and Valdner); and Combination IV (WO 93/00840 and Pan et al.).

**Combination I:**

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Combination I. The Examiner states that WO 93/00840 discloses an umbrella apparatus having a base support portion 4, a pole portion 9 coupled to the base support portion, a canopy portion 8 coupled to the pole portion, a rechargeable electrical power system 3 for providing electrical power to the umbrella apparatus, a solar energy system 2 carried by the pole portion above the canopy portion, and an electrical charging system being adapted to receive power from a power outlet (power cord 14).

The Examiner concedes that WO 93/00840 fails to show an electrical charging system for recharging the rechargeable electrical power system with power from an AC power outlet. The Examiner states that these differences are taught by Valdner.

The WO 93/00840 application discloses an umbrella 1 having a hollow mast 9, a housing 10 having openings 11, a canopy 8, stays 15 to which the canopy 8 is attached, a base 4, batteries 3 carried in the base 4, a cord 6 and a pulley 7 for controlling the canopy 8, a light 12 carried with in the hollow mast 9, a solar collector 2 for recharging the batteries 3, and a power cord 14 for connecting to an alternate source of energy. The canopy 8 is composed of either: (1) a perforated fabric; or (2) an impermeable unperforated fabric having a valence 23 held at the end of supports 24 that forms a peripheral gutter for draining off water. The solar collector 2 covers all or part of the canopy 8. The light 12 is equipped with a ventilated protective tube 13 made of perforated metal, screen, Plexiglas, glass, or a translucent or colored sleeve. Another light 25 is located in the base 4.

There are several distinguishing features between the WO 93/00840 device and the claimed invention. Although WO 93/00840 appears to disclose a lighted umbrella with rechargeable batteries, WO 93/00840 does not disclose, teach, mention, suggest, or disclose a motivation for using an AC power source to recharge the rechargeable batteries. As explained on page 2, line 12 of the translation provided by the third-party requester, the power cord 14 disclosed in WO 93/00840 is for "connecting to another source of energy ..." The batteries 3 are only recharged by the solar collector 2. Thus, the WO 93/00840 device must operate on either the rechargeable batteries 3 or off of another source of energy via the power cord 14. In the WO 93/00840 application, the only use of AC power is as an alternate power source. The WO 93/00840 application makes no suggestion whatsoever of combining or providing rechargeable batteries that can be recharged by both a solar energy recharging system and an electrical charging system that is adapted to receive power from an AC power source.

Furthermore, the solar collector 2 in the WO 93/00840 device must fold down when the canopy is in the down position. Because the solar collector 2 moves with the canopy 8, the solar collector 2 is ineffective for several reasons. First, when the solar collector 2 is folded down with the canopy 8, the material of the canopy 8 blocks and shades the sun from shining onto the solar collector 2, thereby preventing sunshine from hitting the solar collector 2. Second, even if parts of the solar collector 2 are exposed when the canopy 8 is in the down position, the solar collector 2 is in a substantially vertical position, which is very ineffective for collecting solar energy. Third, the solar collector 2 is susceptible to damage from the canopy 8, the stays 15, the supports 24, the peripheral gutter, the flexible drain pipe, and other components of the umbrella 1, when the canopy 8 is repeatedly opened and closed.

Valdner discloses a hand-held, air cooled umbrella 10 having a rod 12, a handle 14 with hand grips 16, a top spring 18, a runner 20, a plurality of stretchers 22, and a collapsible canopy 24. The umbrella 10 includes flat ribs 26 with holes 28 to vent hot air from under the canopy 24. An electric fan 30 powered by an electric motor 32 is built into the rod 12. A solar cell panel 38 mounted to the apex of the canopy 24 provides power to the electric fan 30 on hot sunny days. In addition, the umbrella 10

includes a rechargeable handle battery pack 44 that plugs into the bottom end of the handle 14 to supply power to the electric fan 30 on hot sunless days and at night when there is no solar energy available. The rechargeable handle battery pack 44 may be charged utilizing a separate charger assembly 54 having plugs 58 for plugging into an AC power outlet.

There are also several distinguishing features between the Valdner device and the claimed invention. The Valdner umbrella is not a large patio umbrella that requires a base support to keep the umbrella in an upright position. In fact, in referring to large umbrellas that people sit under, Valdner states: "While these units may be suitable for the particular purpose to which they address, they would not be suitable for purposes of the present invention as heretofore described." Column 1, lines 14-17. Thus, Valdner expressly teaches away from large patio umbrellas that require base supports.

Although Valdner discloses a rechargeable battery pack that is adapted to receive power from an AC power source, the Valdner device is not designed to be used while the battery pack is being recharged by or connected to the AC power source. On hot sunny days, the solar cell panel 38 runs the electric fan 30. On hot sunless days and nights, the rechargeable handle battery pack 44 can be used to supply the power. In the Valdner device, the solar cell panel 38 is used to directly drive the load of the electric fan 30. Other than the solar cell panel 38, the only means taught by Valdner for supplying power to the electric fan 30 is by using the rechargeable handle battery pack 44, as set forth at column 3, lines 3-6: "On hot sunless days and nights the electric plug 46 may be inserted into the electric socket 40 to now supply power to the electric fan 30." The only purpose mentioned by Valdner for the separate charger assembly 54 is to recharge the rechargeable handle battery pack 44. Valdner makes absolutely no mention or suggestion of using the umbrella while the separate charger assembly 54 is connected. Valdner discloses no motivation to combine a large umbrella having a base support with a rechargeable electrical power source that is adapted to receive power from an AC power source.

On the other hand, the claimed invention is directed toward an umbrella apparatus having a base portion, a pole portion coupled to the base portion, a canopy portion hingedly coupled to the pole portion, a rechargeable electrical power system for providing electrical power to the umbrella, a solar energy system coupled to the rechargeable electrical power source, and an electrical charging system for recharging the rechargeable electrical power system, wherein the electrical charging system is adapted to receive power from an AC power outlet. Neither the WO 93/00840 application, Valdner, nor any other reference cited by the third-party requester or the Examiner teach, disclose, mention, suggest, or disclose a motivation to combine such a combination of features. This claimed electrical charging system allows the batteries to be recharged by either the solar energy system or an AC power source. In the claimed invention, the solar energy system does not directly drive the load. Rather, the rechargeable electrical power source drives the load, and the solar energy system recharges the rechargeable electrical power source.

In addition, in the claimed invention, the AC power source is not limited to merely powering the umbrella. Rather, an AC power source can be used to actually recharge the rechargeable batteries. Because the claimed umbrella is a large patio-type umbrella that requires some form of base support, the rechargeable electric power source may be recharged via the solar energy system or an AC power source while the umbrella is being used for its intended purpose. In other words, the claimed umbrella is used while it is supported in a generally stationary position, not while the user is walking down the street.

For these reasons, the Patent Owner submits that the Examiner's rejection of Claim 1 under 35 U.S.C. § 103(a) over Combination I has been traversed and overcome. As such, the Patent Owner respectfully requests that the Examiner reconsider her rejection of Claim 1 under 35 U.S.C. § 103(a), withdraw her rejection, and confirm Claim 1 as originally issued.

Combination II:

Claims 2 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Combination II. The Examiner states that WO 93/00840 discloses an umbrella apparatus having a base support portion 4, a pole portion 9 coupled to the base support portion, a canopy portion 8 coupled to the pole portion, a rechargeable electrical power system 3 for providing electrical power to the umbrella apparatus, a solar energy system 2 carried by the pole portion above the canopy portion, and an electrical charging system being adapted to receive power from a power outlet (power cord 14).

The Examiner concedes that WO 93/00840 fails to show a lighting system carried by the canopy portion and comprising a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power system. The Examiner states that these differences are obvious in light of the teachings of Phyle.

The Patent Owner reiterates here the distinguishing comments set forth above with respect to the WO 93/00840 application. Although WO 93/00840 appears to disclose a lighted umbrella with rechargeable batteries, WO 93/00840 does not disclose, teach, mention, suggest, or disclose a motivation for a lighting system carried by the canopy portion. The WO 93/00840 application only discloses locating the lights within either the base 4 or within the housing 12 located on the mast 9. The WO 93/00840 does not mention, disclose, or suggest placing a lighting system on the canopy portion. In the WO 93/00840 application, the accessories, such as "a diffuser for perfume or insect repellent, alarm, musical device" are placed within the housing 10 so as not to hinder the control of the canopy 8.

Furthermore, the solar collector 2 in the WO 93/00840 device must fold down when the canopy is in the down position. Because the solar collector 2 moves with the canopy 8, the solar collector 2 is ineffective for several reasons. First, when the solar collector 2 is folded down with the canopy 8, the material of the canopy 8 blocks and shades the sun from shining onto the solar collector 2, thereby preventing sunshine from hitting the solar collector 2. Second, even if parts of the solar collector 2 are



exposed when the canopy 8 is in the down position, the solar collector 2 is in a substantially vertical position, which is very ineffective for collecting solar energy. Third, the solar collector 2 is susceptible to damage from the canopy 8, the stays 15, the supports 24, the peripheral gutter, the flexible drain pipe, and other components of the umbrella 1, when the canopy 8 is repeatedly opened and closed.

Phyle discloses a battery-operated lighting apparatus suited for use with patio umbrellas. The Phyle device is basically a "snap-on," non-rechargeable, retrofit lighting system for existing patio umbrellas. In the Phyle device, a battery housing 10 is mounted to a support pole 20 below a canopy 2 and above a slide 26, so as not to interfere with the operation of the umbrella. One main feature of the Phyle device is a passageway 36 that passes through the battery housing 10 to accommodate the pole 20 and reduce the amount of space taken up by the battery housing 10 once the battery housing 10 is attached to the pole 20. In the Phyle device, a switch for activating the batteries is located in the same housing as the batteries.

The most distinguishing features between the Phyle device and the claimed invention is that the batteries in the Phyle device are not rechargeable and the Phyle device has no means to recharge the batteries. Phyle makes no mention, teaching, or suggestion of any kind to use a rechargeable electrical power system, a solar energy system to recharge the rechargeable electrical power system, or a lighting system coupled to and powered by the rechargeable electrical power system. The Phyle device is not compatible with a recharging system, because the battery housing is clamped to the upper end of the pole, where the battery housing is not easily accessible. Although Phyle discloses fluorescent lighting elements carried by the rib members of the canopy portion, the fluorescent lighting elements are not conductively coupled to and powered by a rechargeable electrical power source.

For these reasons, the Patent Owner submits that the Examiner's rejection of Claims 2 and 5 under 35 U.S.C. § 103(a) over Combination II has been traversed and overcome. As such the Patent Owner respectfully requests that the Examiner

reconsider her rejection of Claims 2 and 5 under 35 U.S.C. § 103(a), withdraw her rejection, and confirm Claims 2 and 5 as originally issued.

Combination III:

Claims 2 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Combination III. The Examiner states that Phyle discloses an umbrella apparatus having a base support portion (the patio table which does not carry a reference number), a pole portion 20 coupled to the base support portion, a canopy portion 2 hingedly coupled to the pole portion, a lighting system 12 carried by the canopy portion 2, the lighting system being conductively coupled to and powered by a electrical power system (batteries 60) and having a plurality of rib members 22 coupled to the canopy portion 2, and a plurality of fluorescent elements (108 as described on column 4, lines 32-38) carried by the rib members.

The Examiner concedes that Phyle fails to show a rechargeable electrical power system and a solar energy system integrated with lighting system 12. The Examiner states that these differences are obvious in light of the teachings of Valdner.

The Patent Owner reiterates here the distinguishing comments set forth above with respect to Phyle. To wit, Phyle discloses a battery-operated, "snap-on," lighting apparatus for use in retrofit applications with patio umbrellas, in which the batteries are non-rechargeable. In the Phyle device, a battery housing 10 is mounted to a support pole 20 below a canopy 2 and above a slide 26, so as not to interfere with the operation of the umbrella. The Phyle device requires a passageway 36 that passes through the battery housing 10 to accommodate the pole 20 and reduce the amount of space taken up by the battery housing 10 once the battery housing 10 is attached to the pole 20. In the Phyle device, a switch for activating the batteries is located in the same housing as the batteries.

The claimed invention is distinguished over the Phyle device by the fact that the batteries in the Phyle device are not rechargeable and the Phyle device has no means to recharge the batteries. Phyle makes no mention, teaching, or suggestion of any kind

to use a rechargeable electrical power system, a solar energy system to recharge the rechargeable electrical power system, or a lighting system coupled to and powered by the rechargeable electrical power system. The Phyle device is not compatible with a recharging system, because the battery housing is clamped to the upper end of the pole, where the battery housing is not easily accessible. Although Phyle discloses fluorescent lighting elements carried by the rib members of the canopy portion, the fluorescent lighting elements are not conductively coupled to and powered by a rechargeable electrical power source.

With respect to Valdner, the Patent Owner reiterates here the arguments set forth above which distinguish the claimed invention of the Valdner device. Valdner discloses a hand-held, air cooled umbrella. The Valdner umbrella includes flat ribs with holes to vent hot air from under the canopy. The hot air is vented by an electric fan powered by an electric motor built into a central rod. A solar cell panel mounted to the apex of the canopy provides power to the electric fan on hot sunny days. In addition, the Valdner umbrella includes a rechargeable handle battery pack that plugs into the bottom end of the handle to supply power to the electric fan on hot sunless days and at night when there is no solar energy available. The rechargeable handle battery pack may be charged utilizing a separate charger assembly having plugs for plugging into an AC power outlet. Valdner makes no mention, suggestion, or teaching of any kind related to a lighting system carried by the canopy portion of the umbrella that is powered by a rechargeable electrical power system.

There are several distinguishing features between the Valdner device and the claimed invention. The Valdner umbrella is not a large patio umbrella that requires a base support to keep the umbrella in an upright position. In fact, in referring to large umbrellas that people sit under, Valdner states at column 1, lines 14-17: "While these units may be suitable for the particular purpose to which they address, they would not be suitable for purposes of the present invention as heretofore described." Thus, Valdner expressly teaches away from large patio umbrellas that are adapted for use with base supports. Most importantly, Valdner does not include a lighting system carried by the canopy portion. The Valdner device is strictly an air cooled umbrella with

no provision for a lighting system. In the Valdner device, the canopy portion is adapted for venting hot air, not providing light. For these reasons, the Patent Owner submits that it would not be possible to arrive at the claimed invention by combining the teachings of Phyle and Valdner.

The claimed invention is directed toward an umbrella apparatus having a base portion, a pole portion coupled to the base portion, a canopy portion hingedly coupled to the pole portion, a rechargeable electrical power system for providing electrical power to the umbrella, a solar energy system coupled to the rechargeable electrical power source, and a lighting system carried by the canopy portion, and, in particular, a lighting system comprising fluorescent lighting elements. Neither Phyle, Valdner, nor any other reference cited by the third-party requester or the Examiner teach, disclose, mention, suggest, or disclose a motivation to combine such a combination of features. This unique combination of a solar energy system, a rechargeable electrical power source, and a lighting system powered by the rechargeable electrical power source simply was not known before the claimed invention. The Patent Owner respectfully submits that to contrive such a combination from the Phyle and Valdner references would require impermissible hindsight.

For these reasons, the Patent Owner submits that the Examiner's rejection of Claims 2 and 5 under 35 U.S.C. § 103(a) over Combination III has been traversed and overcome. As such the Patent Owner respectfully requests that the Examiner reconsider her rejection of Claims 2 and 5 under 35 U.S.C. § 103(a), withdraw her rejection, and confirm Claims 2 and 5 as originally issued.

Combination IV:

Claims 2 and 4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Combination IV. The Examiner states that WO 93/00840 discloses an umbrella apparatus having a base support portion 4, a pole portion 9 coupled to the base support portion, a canopy portion 8 coupled to the pole portion, a rechargeable electrical power system 3 for providing electrical power to the umbrella apparatus, and a solar energy system 2 carried by the pole portion above the canopy portion, the solar energy system

being conductively coupled to the rechargeable electrical power system (by electrical wires 22), for recharging the rechargeable electrical power source.

The Examiner concedes that WO 93/00840 fails to show a lighting system carried by the canopy portion and comprising a plurality of light emitting diode elements carried by the rib members, each light emitting diode element being conductively coupled to and powered by the rechargeable electrical power system. The Examiner states that these differences are obvious in light of the teachings of Pan et al.

With regard to the Pan et al. reference, the Patent Owner respectfully submits that patentable distinctions exist between Pan et al. and claims 2 and 4. However, filed herewith is a Declaration Under 37 C.F.R. § 1.131 in which the inventor swears behind the effective date of the Pan et al. reference, i.e., 13 November 2000. In addition a second Declaration Under 37 C.F.R. 1.131 from the Inventor's graphic designer is also being filed herewith. In light of these Declarations, the Patent Owner respectfully submits that Pan et al. may not be relied upon to reject Claims 2 and 4.

According to 37 C.F.R. § 1.131(a), "[w]hen any claim of an application or a patent under reexamination is rejected the inventor of the subject matter of the rejected claim, the owner of the patent under reexamination, ... may submit an appropriate oath or declaration to establish invention of the subject matter of the rejected claim prior to the effective date of the reference or activity on which the rejection is based." According to 37 C.F.R. § 1.131(b), "[t]he showing of facts shall be of such, in character and weight, as to establish reduction to practice prior to the effective filing date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to said date to a subsequent reduction to practice or to the filing of the application." As set forth at M.P.E.P. § 715.07, "when reviewing a 37 C.F.R. § 1.131 affidavit or declaration, the Examiner must consider all of the evidence presented in its entirety, including the affidavits or declarations and all accompanying exhibits, records and 'notes.'"

The attached Declarations Under 37 C.F.R. § 1.131 and supporting Exhibits establish that the inventor, Gregory G. Kuelbs, conceived and reduced to practice

Claims 2 and 4 prior to the effective filing date of Pan et al. Thus, Pan et al. may not be relied upon to reject Claims 2 and 4.

**Grounds of Rejection Raised by Requester:**

For the reasons set forth above, the Patent Owner submits that the rationale for the rejection of Claim 1 as being obvious over WO 93/00840 and Valdner as set forth in the Request is not well taken and should not be adopted. Therefore, the Patent Owner respectfully requests that the Examiner not adopt the rationale as proposed in the Request, and reconsider the rejection of Claim 1 in light of the remarks set forth herein.

With respect to the rationale for the rejection of Claim 2 as being obvious over Mueller et al. in view of Benton and further in view of Phyle as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

With regard to the fact that Benton was inadvertently not printed on the face of the subject patent, the Patent Owner hereby requests that the Benton reference be properly listed on the subject reexamination patent upon issuance.

For the reasons set forth above, the Patent Owner submits that the rationale for the rejection of Claim 2 as being obvious over WO 93/00840 in view of Phyle as set forth in the Request is not well taken and should not be adopted. Therefore, the Patent Owner respectfully requests that the Examiner not adopt the rationale as proposed in the Request, and reconsider the rejection of Claim 2 in light of the remarks set forth herein.

For the reasons set forth above, the Patent Owner submits that the rationale for the rejection of Claim 2 as being obvious over Phyle in view of Valdner as set forth in the Request is not well taken and should not be adopted. Therefore, the Patent Owner respectfully requests that the Examiner not adopt the rationale as proposed in the Request, and reconsider the rejection of Claim 2 in light of the remarks set forth herein.

With respect to the rationale for the rejection of Claim 5 as being obvious over Mueller et al. in view of Benton and further in view of Phyle as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

For the reasons set forth above, the Patent Owner submits that the rationale for the rejection of Claim 5 as being obvious over WO 93/00840 in view of Phyle as set forth in the Request is not well taken and should not be adopted. Therefore, the Patent Owner respectfully requests that the Examiner not adopt the rationale as proposed in the Request, and reconsider the rejection of Claim 5 in light of the remarks set forth herein.

For the reasons set forth above, the Patent Owner submits that the rationale for the rejection of Claim 5 as being obvious over Phyle in view of Valdner as set forth in the Request is not well taken and should not be adopted. Therefore, the Patent Owner respectfully requests that the Examiner not adopt the rationale as proposed in the Request, and reconsider the rejection of Claim 5 in light of the remarks set forth herein.

With respect to the rationale for the rejection of Claim 3 as being obvious over Mueller et al. in view of Benton and further in view of Phyle as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

With respect to the rationale for the rejection of Claim 3 as being obvious over WO 93/00840 in view of Phyle as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

With respect to the rationale for the rejection of Claim 3 as being obvious over Phyle in view of Valdner as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

With respect to the rationale for the rejection of Claim 4 as being obvious over Mueller et al. in view of Benton and further in view of Phyle as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

With respect to the rationale for the rejection of Claim 4 as being obvious over WO 93/00840 in view of Phyle as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.



With respect to the rationale for the rejection of Claim 4 as being obvious over Phyle in view of Valdner as set forth in the Request, the Patent Owner concurs with the Examiner in her decision to not adopt such rationale.

**Confirmation of Claims:**

The Patent Owner acknowledges the Examiner's thorough review of the Request and the prior-art references and appreciates the Examiner's confirmation of Claims 3 and 6-14.

**Statements of Support for Amendments to the Claims:**

New Claims 45-74 are hereby added. The following are statements for support of each added claim.

The Patent owner submits that support for each element and feature of each and every claim in the patent, including the new claims added hereby, may be found in the various embodiments of the invention disclosed in the patent.

Support for all of the elements of new Claim 45 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system and the electrical charging system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the rechargeable electrical power system and the solar energy system being in the same housing is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57.

Support for all of the elements of new Claim 46 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system and the electrical charging system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the rechargeable electrical power system and the solar energy system being in the same housing above the canopy is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57.

Support for all of the elements of new Claim 47 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system and the electrical

charging system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the rechargeable electrical power system and the solar energy system being in the same housing above the canopy, such that the housing is fixed relative to the pole portion is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57.

Support for all of the elements of new Claim 48 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system and the electrical charging system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the rechargeable electrical power system and the solar energy system being in the same housing at least partially above the canopy, such that the housing is fixed relative to the pole portion is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57.

Support for all of the elements of new Claim 49 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system, including the multiple discrete lighting elements positioned along a rib member, is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64.

Support for all of the elements of new Claim 50 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures

3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system, including the multiple discrete lighting elements positioned along each rib, is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64.

Support for all of the elements of new Claim 51 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system, including the multiple discrete lighting elements positioned along a rib that are at least partially recessed within the rib, is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64.

Support for all of the elements of new Claim 52 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system, including the multiple discrete lighting elements positioned along a rib that are fully recessed within the rib, is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64.

Support for all of the elements of new Claim 53 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the

lighting system, including the multiple discrete lighting elements along a rib that are fully recessed within the rib, and with a translucent cover, is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64.

Support for all of the elements of new Claim 54 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system, including the multiple discrete lighting elements along a rib is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64. Support for the multiple discrete lighting elements being light emitting diodes (LED's) is described at column 12, line 58 - column 13, line 3.

Support for all of the elements of new Claim 55 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system, including the multiple discrete lighting elements positioned along a rib that are at least partially recessed within the rib, is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64. Support for the wires being at least partially recessed within the rib members is shown in Figure 4A and described at column 9, lines 40-64.

Support for all of the elements of new Claim 56 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is

shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system, including the plurality of lighting elements carried by the rib members, is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64. Support for the rechargeable electrical power system and the solar energy system being in the same housing above the canopy is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57.

Support for all of the elements of new Claim 57 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system and the electrical charging system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the crank housing coupled to the pole portion and for the switch disposed in the crank housing for controlling the provision of electrical power is shown in Figure 3A and described at column 7, line 63 - column 8, line 25.

Support for all of the elements of new Claim 58 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system and the electrical charging system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the crank housing coupled to the pole portion and for the switch disposed in the crank housing for controlling the provision of electrical power is shown in Figure 3A and described at column 7, line 63 - column 8, line 25. Support for the lighting system carried by the canopy portion is shown in Figure 3A and described at column 7.

Support for all of the elements of new Claim 59 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7,

lines 29-45. Support for the rechargeable electrical power system and the electrical charging system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the crank housing coupled to the pole portion and for the switch disposed in the crank housing for controlling the provision of electrical power is shown in Figure 3A and described at column 7, line 63 - column 8, line 25. Support for the lighting system carried by the canopy portion is shown in Figure 3A and described at column 7. Support for the rechargeable electrical power system and the solar energy system being in a common housing carried by the pole portion, such that the housing is fixed relative to the pole portion is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57.

Support for all of the elements of new Claim 60 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system carried by the canopy portion is shown in Figure 3A and described at column 7, lines 45-62. Support for the lighting system, including the plurality of lighting elements being at least partially recessed within a rib member, and each lighting element being conductively coupled by a conductor disposed within a corresponding rib member, is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64. Support for the conductor being disposed within the rib member is shown in Figure 4A and described at column 9, lines 40-64.

Support for all of the elements of new Claim 61 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the housing mounted atop the pole portion and above the canopy portion is shown in figures 3A and 6, and described at column 11, lines 48-59 and at column 12, lines 26-57. Support for the rechargeable electrical power system



and the solar energy system being disposed within a housing mounted atop the pole portion and above the canopy portion is shown in Figures 3A-3C and described at column 8, lines 26-41, and is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system carried by the canopy portion is shown in Figure 3A and described at column 7, lines 45-62. Support for the lighting system, including the plurality of lighting elements being at least partially recessed within a rib member, and each lighting element being conductively coupled by a conductor disposed within a corresponding rib member, is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64. Support for the conductor being disposed within the rib member is shown in Figure 4A and described at column 9, lines 40-64.

Support for all of the elements of new Claim 62 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system and the electrical charging system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system carried by the canopy portion is shown in Figure 3A and described at column 7, lines 45-62. Support for the lighting system including a plurality of LED's is described at column 12, line 58 - column 13, line 3. Support for the LED's being at least partially recessed within a corresponding rib member, and each LED being conductively coupled by a conductor disposed within a corresponding rib member, is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64. Support for the conductor being disposed within the rib member is shown in Figure 4A and described at column 9, lines 40-64.

Support for all of the elements of new Claim 63 may be found at various locations throughout the patent, including the figures. In particular, support for the base support portion being adapted to maintain the umbrella in an upright position is shown in Figures 2B, 2C, 3B, and 3C and is described at column 3, lines 31-47. Support for

the pole and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system carried by the canopy portion is shown in Figure 3A and described at column 7, lines 45-62. Support for the rechargeable electrical power system and the solar energy system being disposed in a common housing is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57.

Support for all of the elements of new Claim 64 may be found at various locations throughout the patent, including the figures. Support for the base, pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system carried by the canopy portion is shown in Figure 3A and described at column 7, lines 45-62. Support for the rechargeable electrical power system and the solar energy system being disposed in a common housing carried by the pole portion above the canopy portion is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57.

Support for all of the elements of new Claim 65 may be found at various locations throughout the patent, including the figures. Support for the base, pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system carried by the canopy portion is shown in Figure 3A and described at column 7, lines 45-62. Support for the rechargeable electrical power system and the solar energy system being disposed in a common carried by the pole portion, such that the housing is fixed relative to the pole portion is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57.

Support for all of the elements of new Claim 66 may be found at various locations throughout the patent, including the figures. Support for the base, pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system carried by the canopy portion is shown in Figure 3A and described at column 7, lines 45-62. Support for the rechargeable electrical power system and the solar energy system being disposed in a common carried by the pole portion, such that the housing is fixed relative to the pole portion, and the common housing being disposed at least partially above the canopy portion, is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57.

Support for all of the elements of new Claim 67 may be found at various locations throughout the patent, including the figures. Support for the base, pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system disposed in a housing is shown in Figures 3A-3C and described at column 8, lines 26-41 and is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57. Support for the solar energy system is disposed in the housing shown in Figures 3A-3C and described at column 8, lines 42-60 and is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57. Support for the lighting system carried by the canopy portion is shown in Figure 3A and described at column 7, lines 45-62. Support for a switch located remote from the housing for controlling the provision of electrical power from the rechargeable electrical power system is shown in Figures 1, 2A, 3A, 5A, 5B, and 6 and described at column 4, lines 8-22, at column 5, line 64 - column 6, line 11, at column 8, lines 11-25, at column 11, lines 10-47, at column 11, lines 48-59, and at column 12, lines 26-57.

Support for all of the elements of new Claim 68 may be found at various locations throughout the patent, including the figures. Support for the base, pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support

for the rechargeable electrical power system disposed in a housing is shown in Figures 3A-3C and described at column 8, lines 26-41 and is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57. Support for the solar energy system is disposed in the housing shown in Figures 3A-3C and described at column 8, lines 42-60 and is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57. Support for the lighting system carried by the canopy portion is shown in Figure 3A and described at column 7, lines 45-62. Support for a switch located below the housing is shown in Figures 1, 2A, and 3A. Support for a switch located below the housing for controlling the provision of electrical power from the rechargeable electrical power system is shown in Figures 1, 2A, and 3A, and 6 and described at column 4, lines 8-22, at column 5, line 64 - column 6, line 11, at column 8, lines 11-25, at column 11, lines 10-47, at column 11, lines 48-59, and at column 12, lines 26-57.

Support for all of the elements of new Claim 69 may be found at various locations throughout the patent, including the figures. Support for the base, pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system disposed in a housing is shown in Figures 3A-3C and described at column 8, lines 26-41 and is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57. Support for the solar energy system is disposed in the housing shown in Figures 3A-3C and described at column 8, lines 42-60 and is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57. Support for the lighting system carried by the canopy portion is shown in Figure 3A and described at column 7, lines 45-62. Support for a switch located on the pole portion is shown in Figures 1, 2A, and 3A. Support for a switch for controlling the provision of electrical power from the rechargeable electrical power system is shown in Figures 1, 2A, and 3A, and 6 and described at column 4, lines 8-22, at column 5, line 64 - column 6, line 11, at column 8, lines 11-25, at column 11, lines 10-47, at column 11, lines 48-59, and at column 12, lines 26-57.

Support for all of the elements of new Claim 70 may be found at various locations throughout the patent, including the figures. In particular, support for the

base, the pole, and the canopy having a plurality of rib members is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for each rib member having a recessed longitudinal channel is shown in Figure 4A and described at column 9, lines 40-64. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64. Support for the plurality of lighting elements carried by the rib members and being disposed within the channel is shown Figure 4A and described at column 9, lines 40-64. Support for the rechargeable electrical power system and the solar energy system being disposed in a common housing carried by the pole portion above the canopy portion is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57.

Support for all of the elements of new Claim 71 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy having a plurality of rib members is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for each rib member having a recessed longitudinal channel is shown in Figure 4A and described at column 9, lines 40-64. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64. Support for the plurality of lighting elements carried by the rib members and being disposed within the channel, and the translucent cover, is shown Figure 4A and described at column 9, lines 40-64. Support for the rechargeable electrical power system and the solar energy system being disposed in a common housing carried by the pole portion above the canopy portion is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57.

Support for all of the elements of new Claim 72 may be found at various locations throughout the patent, including the figures. In particular, support for the

base, the pole, and the canopy having a plurality of rib members is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system is shown in Figures 3A-3C and described at column 8, lines 42-60. Support for the lighting system is shown in Figures 3A and 4A and described at column 7, lines 45-62 and at column 9, lines 40-64. Support for the plurality of discrete lighting elements carried by each rib member and being coupled to the rechargeable electrical power source is shown Figure 4A and described at column 9, lines 40-64.

Support for all of the elements of new Claim 73 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system carried atop the pole portion is shown in Figures 3A-3C and described at column 8, lines 42-60 and is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57. Support for the electrical charging system being adapted to receive power from an AC outlet is shown in Figure 3C and described at column 8, lines 26-41.

Support for all of the elements of new Claim 74 may be found at various locations throughout the patent, including the figures. In particular, support for the base, the pole, and the canopy is shown in Figures 3A-3C and described at column 7, lines 29-45. Support for the rechargeable electrical power system is shown in Figures 3A-3C and described at column 8, lines 26-41. Support for the solar energy system carried atop the pole portion is shown in Figures 3A-3C and described at column 8, lines 42-60 and is shown in Figure 6 and described at column 11, lines 48-59 and at column 12, lines 26-57. Support for the lighting system carried by the canopy portion is shown in Figure 3A and described at column 7, lines 45-62.

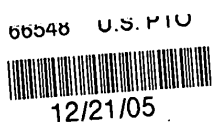
**Proof of Service:**

Pursuant to 37 C.F.R. § 1.903, a true and correct copy of the Patent Owner's initial Response to Order Granting *Inter Partes* Reexamination and Office Action in *Inter Partes* Reexamination, including all attachments, exhibits, and Declarations in support thereof, was served on the third-party requester. Pursuant to 37 C.F.R. § 1.248(a)(4), the undersigned hereby certifies that a true and correct copy of the initial Response to Order Granting *Inter Partes* Reexamination and Office Action in *Inter Partes* Reexamination was served on the third-party requester's attorney of record, Robert E. Richards, by First Class Mail with sufficient postage at Kilpatrick Stockton LLP, 1100 Peachtree Street, Suite 2800, Atlanta, Georgia 30309 on 18 November 2005.

Pursuant to 37 C.F.R. § 1.903, a true and correct copy of this Response to Notice Re Defective Paper in *Inter Partes* Reexamination and Response to Order Granting *Inter Partes* Reexamination and Office Action in *Inter Partes* Reexamination has been served on the third-party requester. Pursuant to 37 C.F.R. § 1.248(a)(4), the undersigned hereby certifies that a true and correct copy of this Response to Notice Re Defective Paper in *Inter Partes* Reexamination and Response to Order Granting *Inter Partes* Reexamination and Office Action in *Inter Partes* Reexamination was served on the third-party requester's attorney of record, Robert E. Richards, by First Class Mail with sufficient postage at Kilpatrick Stockton LLP, 1100 Peachtree Street, Suite 2800, Atlanta, Georgia 30309 on 12 December 2005.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Reexamination of: )  
 )  
**Gregory G. Kuelbs** )  
 )  
 Control No. **95/000,104** )  
 Patent No.: **6,612,713** )  
 Issued: **September 2, 2003** )  
 Assignee: **WORLD FACTORY, INC.** )



Examiner: **Margaret Wambach**  
 Art Unit: **3992**

**COMMENTS OF THIRD PARTY REQUESTER TO PATENT OWNER'S  
 RESPONSE IN *INTER PARTIES* REEXAMINATION AND TO OFFICE ACTION**

Mail Stop Ex Parte Reexam  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450



Sir:

Third party requester, Southern Sales & Marketing Group, Inc. ("Southern Sales"), pursuant to 37 CFR §§1.947 and 1.948, hereby submits its comments to the "Response to Order Granting *Inter Parties* Reexamination and Office Action in *Inter Parties* Reexamination" by the patent owner, World Factory, Inc. ("World Factory"), and to the Office Action mailed September 28, 2005.

**Additional Prior Art Submitted Under 37 CFR §1.948**

Pursuant to 37 CFR §1.948, Southern Sales is including herewith the following additional prior art references that address features of the new Claims 15-44 not present in the

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313/1450, on December 15, 2005.

*[Handwritten Signature]*  
 Robert E. Richards - Reg. No. 29,105

YOT-1003-0408



original claims and which are necessary to rebut the response by World Factory with respect to Claim 4.

Patent No./App. No.	Inventor	Exhibit No.
5,911,493	Walker et al.	8
6,126,293	Wu	9
5,611,614	Morgan	10
5,053,931	Rushing	11
JP 9-168415		12

### The Rejection of Claim 1 Under Combination I

The Office Action rejected Claim 1 as being obvious and unpatentable over WO 93/00840 in view of Valdner. The Office Action states that:

To produce the structure recited in claim 1, WO 93/00840 must be altered to incorporate the portion of Valdner's electrical charging system which permits a rechargeable battery to be recharged from either a solar energy system or an AC power outlet. The power cord of WO 93/00840 could be retained if it was compatible with an AC power outlet or else it would be replaced by a cord possessing such capability.

Motivation for such substitution is provided by the increased reliability implicit in having potential access to an alternate source of power on days when the potential of the solar energy system to provide all necessary power is strained or exceeded. Further, it is noteworthy that Valdner discloses that such alternate AC/solar recharging systems for batteries are "well known in the art" (column 2, line 42).

World Factory's response fails to overcome this rejection. World factory did not amend Claim 1, but merely argues alleged differences between the alleged invention and WO 93/00840 and Valdner individually even though those alleged differences are not elements of Claim 1, argues that there is no motivation to combine the references in the manner set forth in the Office Action and incorrectly argues that Valdner teaches away from

the alleged invention of Claim 1. However, World Factory's response does not overcome the rejection of the Office Action.

With respect to World Factory's response, it argues various differences between the WO 93/00840 and the alleged invention of the U.S. Patent No. 6,612,713 (the "713 patent"). For example, World Factory argues that when the solar collector of WO 93/00840 is folded down with the canopy, the material of the canopy blocks the sun from shining on the solar collector. Apparently realizing that the foregoing difference is not correct, World Factory then states that even if parts of the solar collector are exposed when the canopy is in the down position, it is in a vertical position which is allegedly very ineffective for collecting solar energy. However, World Factory's arguments are without merit since those alleged differences are not elements of Claim 1.

With respect to Valdner, World Factory incorrectly argues that Valdner states that its umbrella would be unsuitable for use as a large patio umbrellas that people sit under. In fact, World Factory incorrectly quotes Valdner in its response as follows:

While these unites may be suitable for the particular purposes to which they address, they would not be suitable for the purposes of the present invention as heretofore described. Column 1, lines 14-17.

World Factory Response at page 26.

However, the correct quote from Valdner is "While these unites may be suitable for the particular purposes to which they address, they would not be as suitable for the purposes of the present invention as heretofore described." (Emphasis added). Thus, it is clear from Valdner that the designs of the umbrellas disclosed in the cited patents could be used in the invention of Valdner, but not as effectively as the design of the Valdner

invention. Therefore, World Factory's contention that Valdner teaches away from the present invention is based on an incorrect reading of the Valdner patent.

Lastly, World Factory incorrectly argues that Valdner is not designed to be used while the battery pack is being recharged by or connected to the AC power source. However, this feature is not an element of Claim 1. All Claim 1 requires is that the rechargeable batteries be connected appropriately such that they can be recharged by the solar collector or by an AC power source. This feature is clearly disclosed by Valdner at col. 2, lines 31-59. Second, Valdner discloses in Figs. 3 and 8 that its fan can be operated while the batteries are being recharged. With reference to Fig. 8, when the plug 58 is connected to an AC power source, the fan motor 32 can be operated by closing switch 50.

Thus, contrary to its allegation in its response, World Factory fails to rebut the motivation for combining WO 93/00840 and Valdner as set forth in the Office Action. As Valdner clearly discloses and the Office Action specifically note, the use of an AC/solar recharging system for rechargeable batteries is well known in the art. Nothing in World Factory's response shows otherwise. Therefore, the rejection of Claim 1 based on Combination I, as set forth in the Office Action, is correct and should be maintained.

### **The Rejection of Claims 2 and 5 Under Combination II**

The Office Action rejected Claims 2 and 5 as being obvious and unpatentable over WO 93/00840 in view of Phyle. The Office Action states that WO 93/00840 discloses all of the elements of Claims 2 and 5, except for a lighting system carried by the canopy portion and comprising a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the

rechargeable electrical power system. However, the Office Action finds these differences obvious in view of Phyle. The Office Action states that it would be obvious to put the fluorescent lighting device of Phyle on the ribs of the WO 93/00840 canopy portion. The motivation noted in the Office Action for such a combination is that substituting the Phyle lighting system for the lighting system taught by WO 93/00840 would provide more overhead lighting.

World Factory reiterates the alleged distinguishing factors mentioned above with respect to WO 93/00840. However, as with Claim 1, those features are not elements of either Claim 2 or Claim 5.

With respect to the Phyle reference, World Factory acknowledges that Phyle discloses fluorescent lighting elements carried by the rib members of the canopy portion of a patio umbrella (see World Factory Response at page 29). The only distinguishing factor that World Factory can identify in Phyle is that Phyle does not disclose a rechargeable electrical power source. However, this difference does not address the motivation for combining WO 93/00840 and Phyle as set forth in the Office Action. In addition, Phyle provides motivation for combination with WO 93/00840 as follows:

It will be appreciated that the lighting apparatus according to the present invention enable nighttime use of outdoor structures. It is particularly well suited for use in combination with a patio table umbrella where battery powered illumination under the canopy is desired. Moreover, the lighting apparatus of the present invention will not interfere with the movement of the umbrella canopy between a raised or lowered position.

Phyle at col. 5, lines 1-8

Accordingly, a person skilled in the art would be motivated to use the lighting device 12 attached to the underside of the ribs 22 that support the canopy 2, as taught by Phyle, in the patio umbrella of WO 93/00840 so as to permit its nighttime use outdoor and to provide battery powered illumination under the canopy and will not interfere with the movement of the umbrella canopy between a raised or lowered position.

Thus, contrary to the allegation in its response, World Factory fails to rebut the motivation for combining WO 93/00840 and Phyle as set forth in the Office Action. Therefore, the rejection of Claims 2 and 5 based on Combination II, as set forth in the Office Action, is correct and should be maintained.

### **The Rejection of Claims 2 and 5 Under Combination III**

The Office Action rejected Claims 2 and 5 as being obvious and unpatentable over the patent to Phyle in view of the patent to Valdner. The Office Action states that Phyle discloses all of the elements of Claims 2 and 5, except for a rechargeable battery system that is rechargeable with a solar collector. The Office Action states that it would be obvious to provide the umbrella apparatus of Phyle with the rechargeable electrical power system and the solar energy system of Valdner. The Office Action states that the motivation for combining these references is provided by the convenience of not having to change dry cell batteries when their power is exhausted and to make use of the unlimited and free natural resource of sunlight rather than paying for power off the grid.

World Factory states that the alleged invention of Claims 2 and 5 distinguish over Phyle because Phyle does not disclose a rechargeable battery system. This feature, however, is taught by the secondary reference, Valdner. World Factory further states that

Phyle is not compatible with a recharging system because the battery housing is clamped to the upper end of the pole where the battery housing is not easily accessible. These feature, however, are not elements of Claims 2 and 5. Furthermore, World Factory offers no reason why rechargeable batteries must be easily accessible to be useful in an umbrella. Since rechargeable batteries do not have to be changed frequently, like non-rechargeable batteries do, their ease of access is not a factor.

With respect to Valdner, World Factory reiterates the alleged differences stated above with respect to Claim 1, including World Factory's misquoting of the portion of Valdner referenced above.<sup>1</sup> In addition, World Factory states that Valdner does not disclose a lighting system. However, these arguments do not address a rejection under 35 U.S.C. §103. World Factory merely argues that no single reference discloses the features of Claims 2 and 5. With respect to motivation to combine the references, World Factory merely makes the bald allegation that there is no such motivation. This allegation does not rebut the well-reasoned description of the motivation set forth in the Office Action.

Thus, contrary to its allegation in its response, World Factory fails to rebut the motivation for combining Phyle and Valdner as set forth in the Office Action. Therefore, the rejection of Claims 2 and 5 based on Combination III, as set forth in the Office Action, is correct and should be maintained.

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<sup>1</sup> The fact that World Factory misquotes Valdner again here is evidence that the misquote was not an accidental typographical error.

### **The Rejection of Claims 2 and 4 Under Combination IV**

The Office Action rejected Claims 2 and 4 as being obvious and unpatentable over WO 93/00840 in view of the patent to Pan et al. (U.S. Patent No. 6,439,249). World Factory has submitted declarations under 35 C.F.R. §1.131 to swear behind Pan et al.

Southern Sales submits that the evidence submitted by World Factory is insufficient to establish a date of invention prior to the filing date of Pan et al. Therefore, it is submitted that the rejection of Claims 2 and 4 as being obvious in view of WO 93/00840 in view of the patent to Pan et al. was proper and should be maintained.

Should the examiner determine that World Factory is entitled to remove Pan et al. as a reference under 35 C.F.R. §1.131, Southern Sales submits that Claim 4 is invalid under 35 U.S.C. §103(a) as being obvious and unpatentable in view of either Combination II or Combination III. Combinations II and III were both used by the Office Action to reject Claims 2 and 5. Both of these Combinations rely on Phyle for disclosing fluorescent lighting elements carried by the rib members of the canopy portion of a patio umbrella. World Factory acknowledges this disclosure of Phyle (see World Factory Response at page 29). Thus, the only difference between Claim 4 and Claims 2 and 5 (which were rejected by the Office Action as obvious over Combinations II and III) is that Claim 4 requires that the lighting element be a light emitting diode (better known as an "LED"); whereas, Claim 5 requires that the lighting element be a fluorescent lighting element.

As previously stated, the lighting device 12 in Phyle is a fluorescent light element 108. The substitution of an LED for the fluorescent light of Phyle is not of patentable consequence. It would have been obvious to a person skilled in the art that an

LED could be used for the fluorescent light element 108 of Phyle. In fact, Phyle states that other types of lighting devices are equally appropriate:

As shown in FIG. 4, at least one lighting device 12 is secured to a rib 22 for providing light thereunder. In the preferred embodiment, lighting devices 12 having a substantially elongated configuration are used although other lighting device configurations are equally appropriate. (Emphasis added).

Phyle at col. 3, lines 7-11.

Thus, Claim 4 is invalid on the same bases as Claim 5; *i.e.*, Combinations II and III. Accordingly, the rejection of Claim 4 is appropriate, however, if the rejection under Combination IV is determined to be improper, the basis of the rejection should be changed to Combinations II and/or III.

Alternately, Southern Sales submits that Claim 4 is invalid under 35 U.S.C. §103(a) as being obvious and unpatentable over either Combination II or III and further in view of either Walker et al. (Exhibit 8) or Wu (Exhibit 9). Both Combinations II and III disclose all of the elements of Claim 2, as discussed above. As also discussed above, the only element added by Claim 4 is that the light source of Claim 2 is an LED. Both Walker et al. and Wu show the use of LEDs on battery illuminated umbrellas.

Specifically, Walker et al. discloses rope lights 32 attached to the rib 16 of the umbrella 10. It is well known in the art that rope lights use LEDs as their light source. Wu discloses the use of LEDs for the illuminators 31 and 32. The illuminator 31 is positioned at the top of the umbrella while the illuminators 32 are positioned on the tips of each of the ribs of the umbrella.



Thus, Claim 4 is invalid under 35 U.S.C. §103(a) as being obvious and unpatentable over either Combination II or III and further in view of either Walker et al. or Wu.

#### **New Claims 15-44**

World Factory has added with its Response new Claims 15-44. World Factory offers no reason for the allowance of these new claims over the references of record. However, Southern Sales submits that new Claims 15-44 are not patentably distinct from the references of Combinations I through IV of the Office Action. Southern Sales submits that Claims 15-44 are not patentable for the additional reasons set forth below.

**Claims 15 to 17** – Claims 15-17 are not patentable under 35 U.S.C. §103(a) in view of Combinations I, II and/or III. Claims 15-17 are not patentable under 35 U.S.C. §112, first and second paragraphs, because the term “common housing”, is vague and indefinite, fails to particularly point out and distinctly claim the alleged invention and the specification is not enabling for a housing other than one located completely above the canopy portion and supported by the top of the pole, as shown in Fig. 6-9. The term “common housing” is vague and indefinite because it cannot be determined whether housing the rechargeable batteries in the pole portion with the solar collector disposed atop the pole portion and above the canopy portion, such as shown in Fig. 1, is considered to be in a “common housing.”

**Claim 18** – Claim 18 is not patentable under 35 U.S.C. §103(a) in view of Combinations I, II and/or III. Claim 18 is also not patentable under 35 U.S.C. §112, first and second paragraphs, for the same reasons set forth above regarding Claims 15-17. In addition,

there is no support in the specification for the “common housing” being “at least partially above the canopy.”

**Claims 19 to 20** – Claims 19-20 are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Phyle discloses that the lighting system can comprise at least one lighting device secured to each rib member.

As shown in FIG. 4, at least one lighting device 12 is secured to a rib 22 for providing light thereunder. In the preferred embodiment, lighting devices 12 having a substantially elongated configuration are used although other lighting device configurations are equally appropriate. (Emphasis added).

Phyle at col. 3, lines 7-11.

The use of the term “at least one” in Phyle implies that multiple lighting devices connected to each rib member are also contemplated. Phyle also discloses lighting devices 12 on each rib member.

Additionally, Morgan (Exhibit 10) and Rushing (Exhibit 11) both disclose multiple discrete lighting elements along each rib of an umbrella. Specifically, Fig. 5 of Morgan shows three bulbs 24 positioned along the rib or frame members 14 of the umbrella 10. Additionally, Fig. 2 of Rushing shows a plurality of lights 14 positioned along each rib 28 of the umbrella. Thus, Claims 19 and 20 also are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of either Morgan or Rushing.

**Claim 21 to 22** – Claims 21-22 are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III for the same reasons as set forth above for Claims 19-20. Claims 21-22 are also not patentable under 35 U.S.C. §112, first and second paragraphs, because the terms “at least partially recessed within the corresponding rib member” and “fully recessed within the corresponding rib member” are both vague and indefinite and fail

to particularly point out and distinctly claim the alleged invention. There is no support in the specification for either of the terms “at least partially recessed within the corresponding rib member” or “fully recessed within the corresponding rib member”. Furthermore, it cannot be determined whether a lighting device mounted on a rib, but fully or partially enclosed in a sheath or outer cover would be considered fully or partially recessed in the corresponding rib member. For example, Phyle shows in Fig. 11 and describes the lighting device 12, at col. 4, lines 32-38, as follows:

The lighting device 12 includes a light wand 104 having a transparent outer sheath 106 and at least one elongated fluorescent filament element 108 located therein. This elongated configuration is particularly well suited for use in conjunction with the umbrella ribs 22 since its elongated arrangement enable the lighting devices 12 to remain secured to the ribs in any umbrella position.

If the terms “at least partially recessed within the corresponding rib member” and “fully recessed within the corresponding rib member” are considered to include structures, such as Phyle, then the claims are invalid as obvious in view of combinations II and/or III; if not, then the claims are invalid under 35 U.S.C. §112, first and second paragraphs.

Additionally, the patent to Walker et al. discloses a plurality of lighting elements partially recessed within the corresponding rib member. Specifically, Walker et al. states at col. 2, lines 21-35 as follows:

Downwardly open elongate channels 30 are secured to the undersides of the ribs 16. Each channel 30 has pressed into it a light sources in the form of a length of rope lighting 32 so that each length of rope lighting 32 is carried by and extends along an associated rib 16. \*\*\*

Rope lighting consists of an extruded length of synthetic plastics material. The synthetic plastics material is flexible and has at intervals therealong sources of light. These sources are

connected together by wires which run through the extrusion. When connected to a source of electricity, rope lighting is illuminated throughout its length.

Although Walker et al. does not specifically disclose it, rope lighting is known by those skilled in the art to contain light emitting diodes (“LEDs”) as its source of light. Thus, the LEDs of the rope lighting of Walker et al. are recessed in the channels 30 attached to the ribs 16 of the umbrella. Thus, the elements “at least partially recessed” LEDs (which term includes fully recessed) and “fully recessed” LEDs are disclosed by Walker et al. Therefore, it is submitted that Claims 21 and 22 also are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of Walker et al.

**Claim 23** – Claim 23 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. As stated above, Phyle (Fig. 11) discloses a lighting device 12 which includes a light wand 104 having a transparent outer sheath 106 and at least one elongated fluorescent filament element 108 located therein. Claim 23 is also unpatentable for the same reasons as stated above for Claims 19 and 22.

Additionally, the transparent extrusion of the rope lighting 32 of Walker et al. which encases the light sources, or LEDs, constitutes a transparent or translucent cover over the lighting elements. Therefore, it is submitted that Claim 23 also is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of Walker et al.

**Claim 24** – Claim 24 is invalid on the same basis as set forth above for Claim 19. Additionally, the rope lighting of Walker et al. constitutes LEDs which meets the language of Claim 19. Therefore, it is submitted that Claim 24 also is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of Walker et al.

Furthermore, Japanese patent application No. 9-168415 (Exhibit 12) discloses on page 7 a plurality of LEDs 7 and 7A (*i.e.*, 7a1-7a8, 7b1-7b8 and 7c1-7c8) disposed along the length of each rib of the umbrella. Therefore, it is submitted that Claim 24 also is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of Japanese patent application No. 9-168415.

**Claim 25** – Claim 25 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 25 is also not patentable under 35 U.S.C. §112, first and second paragraphs, because the term “partially recessed within the rib members” is vague and indefinite and fails to particularly point out and distinctly claim the alleged invention. Furthermore, there is no support in the specification for the term “partially recessed within the rib members”. Additionally, Claim 25 is invalid for the same reasons as Claim 21 set forth above.

Also, the rope lighting 32 of Walker et al. is disclosed as containing the wires that connect the multiple light sources within the extrusion. Specifically, Walker et al. states at col. 2, lines 30-35 as follows:

Rope lighting consists of an extruded length of synthetic plastics material. The synthetic plastics material is flexible and has at intervals therealong sources of light. These sources are connected together by wires which run through the extrusion. When connected to a source of electricity, rope lighting is illuminated throughout its length.

The rope lighting 32 is recessed within the channel 30 of each rib 16. Therefore, it is submitted that Claim 25 also is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of Walker et al.

Furthermore, the patent to Wu discloses at col. 3, lines 24-34 and in Fig. 28 that the positive and negative wires of each tip illuminator 32 are led through the tubes 46, 46a, 46b within the ribs of the umbrella. Therefore, it is submitted that Claim 25 also is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of Wu.

**Claim 26** – Claim 26 is invalid on the same basis as set forth above for Claims 15-17 and 20-24 above. In addition, Claim 26 is invalid under 35 U.S.C. §112, first and second paragraphs, as being vague and indefinite, failing to particularly point out and distinctly claim the alleged invention and lacking support in the specification for the term, and lacking an antecedent basis for the term “rechargeable electrical power source.”

**Claims 27-28** – Claims 27-28 are not patentable under 35 U.S.C. §103(a) in view of Combinations I, II and/or III. In addition, Claims 27-28 are invalid under 35 U.S.C. §112, first and second paragraphs, as being vague and indefinite, and failing to particularly point out and distinctly claim the alleged invention and lacking support in the specification for the term “switch disposed in the crank housing for controlling the provision of electrical power from the rechargeable electrical power system.” The specification only supports switches on the crank housing that control the opening and closing of the canopy portion of the umbrella. It is unclear from the claim for what purpose and to what apparatus the switches are controlling the provision of electrical power. If the switches on the crank housing are intended to control the lighting elements, there is no support in the specification for such a switch.

**Claim 29** – Claim 29 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 29 is invalid on the same basis as set forth above for Claims 15-17 and 27-28. In addition, Claim 29 is broader than the original claims of the '713 patent which are prohibited in a reexamination based on a patent that issued more than 2 years ago. The term “a pole portion adapted for use with a supportive base portion” is broader than the terms a “base support portion” and “a pole portion coupled to the base support portion” in the original claims.

**Claims 30-32** – Claims 30-32 are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claims 30-32 are also invalid on the same basis as set forth above for Claims 20-22 and 24-25. Walker et al. and Wu both show conductors disposed within a corresponding rib member. Furthermore, Claims 30-32 are also not patentable under 35 U.S.C. §112, first and second paragraphs, because the terms “conductor disposed within a corresponding rib member” is vague and indefinite and fails to particularly point out and distinctly claim the alleged invention. There is no support in the specification for the term “conductor disposed within a corresponding rib member”. Furthermore, it cannot be determined whether a lighting device mounted on a rib, having conducting wires disposed therein would be considered a conductor disposed within a corresponding rib member. For example, Phyle shows in Fig. 11 and describes the lighting device 12, at col. 4, lines 32-38, as follows:

The lighting device 12 includes a light wand 104 having a transparent outer sheath 106 and at least one elongated fluorescent filament element 108 located therein. This elongated configuration is particularly well suited for use in conjunction with the umbrella ribs 22 since its elongated arrangement enable the lighting devices 12 to remain secured to the ribs in any umbrella position.

Additionally, Fig. 11 of Phyle shows conductors running longitudinally down the lighting device 12, which would be parallel to the rib member to which the lighting device is attached. If the term “conductor disposed within a corresponding rib member” is considered to include structures including conductors within a structure attached to a rib member, such as Phyle, Walker et al. or Wu, then the claim is invalid as obvious in view of Combinations II and/or III or Combinations II and/or III and further in view of Walker et al. or Wu; if not, then the claims are invalid under 35 U.S.C. §112, first and second paragraphs.

**Claim 33** – Claim 33 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 33 is also invalid on the same basis as set forth above for Claims 15-17.

**Claims 34-36** – Claims 34-36 are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claims 34-36 are also invalid on the same basis as set forth above for Claims 15-18.

**Claim 37** – Claim 37 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 37 is also invalid on the same basis as set forth above for Claim 27. Furthermore, Claim 37 is also not patentable under 35 U.S.C. §112, first and second paragraphs, because the terms “remote from the housing” is vague and indefinite and fails to particularly point out and distinctly claim the alleged invention. There is no support in the specification for the term “remote from the housing”. Valdner discloses a housing 44 for the rechargeable batteries and a switch 48 for turning the fan on and off. The location of a switch to turn on a light or a fan on an umbrella is a mere matter of design choice and does not rise to the level of patentable subject matter. Claim 37 recites a lighting system and a



switch, however, the specification does not support a switch for the lighting system. The claim is vague and does not distinctly claim the alleged invention because it does not recite to what the switch provides electrical power.

**Claim 38** – Claim 38 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 38 is also invalid on the same basis as set forth above for Claim 37. Claim 38 recites a lighting system and a switch, however, the specification does not support a switch for the lighting system. The claim is vague and does not distinctly claim the alleged invention because it does not recite to what the switch provides electrical power.

**Claim 39** – Claim 39 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 39 is also invalid on the same basis as set forth above for Claims 15-18 and 37-38. Claim 39 recites a lighting system and a switch, however, the specification does not support a switch for the lighting system. The claim is vague and does not distinctly claim the alleged invention because it does not recite to what the switch provides electrical power.

**Claims 40-41** – Claims 40-41 are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claims 40-41 are also invalid on the same basis as set forth above for Claims 15-18 and 20-25.

**Claim 42** – Claim 42 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 42 is also invalid on the same basis as set forth above for Claims 20-25.

**Claim 43** – Claim 43 is not patentable under 35 U.S.C. §103(a) in view of Combinations I, II and/or III. The only difference between Claim 43 and Claim 1, which has

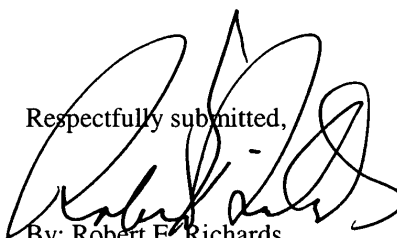
been rejected in the Office Action based on Combination I, is that Claim 43 states that the solar energy system is carried atop the pole portion; whereas, Claim 1 states that the solar energy system is carried by the pole portion above the canopy portion, and Claim 42 omits the provision of Claim 1 which states that the solar energy system is above the canopy portion. Placing the solar energy system atop the pole portion is shown in Valdner, which discloses a pole portion or rod 12 and a solar cell panel 38 mounted at the apex of the canopy 24. Placing the solar energy system atop the pole portion is also shown in Benton. If Claim 43 is not invalid under 35 U.S.C. §103(a) in view of Combinations I, II and/or III or in view of Combinations I, II and/or III and further in view of Benton, then it must be invalid under 35 U.S.C. §112 due to the use of the indefinite term "carried atop the pole portion." Furthermore, by omitting the provision of Claim 1 which states that the solar energy system is above the canopy portion, Claim 43 is broader than the original claims of the '713 patent, which is not permitted in a reexamination application based on claims that issued more than 2 years ago.

**Claim 44** – Claim 44 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 44 is also invalid on the same basis as set forth above for Claims 2 and 43.

## CONCLUSION

In view of the foregoing, Southern Sales respectfully requests that the rejection of Claims 1, 2, 4 and 5 be maintained, that Claims 3 and 4 be rejected and that new Claims 15-44 be rejected under 35 U.S.C. §103(a) in view of Combinations I, II and/or III, either alone or in further combination with the new prior art references cited herein (*i.e.*, Exhibits 8-12) and the other bases as set forth above.

Respectfully submitted,



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Our Docket No. 45639-316477

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

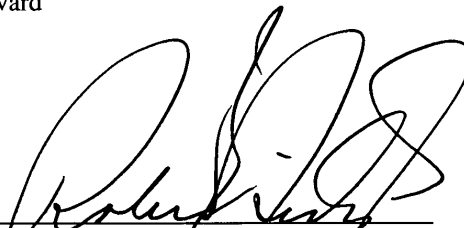
In the Reexamination of: )  
)  
**Gregory G. Kuelbs** )  
)  
Control No. **95/000,104** )  
)  
Patent No.: **6,612,713** )  
) **Examiner: Margaret Wambach**  
Issued: **September 2, 2003** ) **Art Unit: 3992**  
)  
Assignee: **WORLD FACTORY, INC.** )

**CERTIFICATE OF SERVICE**

This is to certify that I have this day served a true and correct copy of the foregoing "Comments of Third Party Requester to Patent Owner's Response in *Inter Parties* Reexamination and to Office Action" by depositing same in the United States mail, properly addressed with sufficient first class postage affixed thereto to ensure delivery to:

James E. Walton, Esq.  
1169 N. Burleson Boulevard  
Suite 107-328  
Burleson, Texas 76028

This 15th day of December, 2005.

  
\_\_\_\_\_  
Robert E. Richards

**PLEASE NOTE: EXHIBITS 8 THROUGH 11 ARE  
US PATENTS, AND WILL NOT BE SCANNED.**

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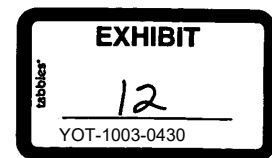
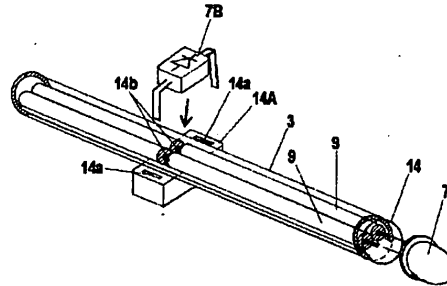
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(54) 【発明の名称】 発光傘及び製造方法

(57) 【要約】 (修正有)

【課題】 骨に添設する各LEDを点滅して発光させ、安全性及び装飾性のある発光傘を提供する。

【解決手段】 傘を構成する骨3に沿って配線するリード線9の少なくとも1か所にLED7を設け、該リード線9を骨3沿いと支柱4内、又は骨3沿いのみに通して配線し、該各リード線9と回路接続する電源電池8と切り換え開閉器10と点滅回路11を、それぞれ握り5又は石突き12に設け、切り換え開閉器10によって各LED7を「消灯」「連続点灯」「点滅発光」のいずれかに切り換えて発光させる構成である。



【特許請求の範囲】

【請求項1】 傘を構成する骨(3)に沿って配線するリード線(9)の少なくとも1か所にLED(7)を設け、該リード線(9)を前記骨(3)沿いと支柱(4)内、又は前記骨(3)沿いのみを通して配線し、該各リード線(9)と回路接続する電源電池(8)と切り換え開閉器(10)と点滅回路(11)を、それぞれ握り(5)又は石突き(12)に設け、前記切り換え開閉器(10)によって各LED(7)を「消灯」「連続点灯」「点滅発光」のいずれかに切り換えて発光させることを特徴とする発光傘。

【請求項2】 前記点滅回路(11)において、各LED(7)(7)・・・(7)の一つ一つの点滅周期を各々可変して給電する制御部(11a)を設け、該制御部(11a)によって予め設定した各LED(7)(7)・・・(7)の点滅周期に応じた少なくとも2種以上の点滅パターンを用意し、点滅パターン切換器(10A)によってその点滅パターンのいずれかに切り換え選択して発光させることを特徴とする請求項1記載の発光傘。

【請求項3】 請求項1記載の切り換え開閉器(10)と請求項2記載の点滅パターン切換器(10A)の両器を一体にした点滅切り換え開閉器(10B)を請求項2記載の回路に設け、その点滅切り換え開閉器(10B)によって各LED(7)(7)・・・(7)を「消灯」「連続点灯」「点滅パターン①」「点滅パターン②」・・・のいずれかに切り換え発光させることを特徴とする請求項1又は2記載の発光傘。

【請求項4】 傘を構成する骨(3)に沿って配線するリード線(9)の少なくとも1か所に自己点滅LED(7A)を設け、該リード線(9)を前記骨(3)沿いと支柱(4)内、又は前記骨(3)沿いのみを通して配線し、該各リード線(9)と回路接続する電源電池(8)と開閉器(10a)を、それぞれ握り(5)又は石突き(12)に設け、前記開閉器(10a)によって各自己点滅LED(7A)(7A)・・・(7A)を「消灯」又は「点滅」して発光させることを特徴とする発光傘。

【請求項5】 傘を構成する骨(3)と支柱(4)支持部(6)との少なくとも一つを各LED(7)又は各自己点滅LED(7A)に給電する通電部として回路接続した請求項1, 2, 3又は4記載の発光傘。

【請求項6】 折畳み式の傘において、支柱(4)内又は周面に、上下に摺動して接接触通電する摺動式電極(16)を少なくとも1極設けたことを特徴とする請求項1, 2, 3, 4又は5記載の発光傘。

【請求項7】 前記リード線(9)の適所に所要数のソケット(14)を接続固定して製造し、次に骨(3)に沿ってそのリード線(9)を配線し、前記ソケット(14)へ各LED(7)を挿脱可能に設けたことを特徴とする請求項1, 2, 3, 4, 5又は6記載の発光傘及び

その製造方法。

【請求項8】 LED(7)に給電するリード線(9)の先端部にソケット(14)を接続固定して製造し、次に該ソケット(14)を骨(3)の先端に位置させ、同ソケット(14)にLED(7)を挿脱可能に装備させ、該LED(7)を光透過性の保護キャップ(15)で覆い、前記骨(3)の先端部に装設させて製造する発光傘の製造方法。

【請求項9】 LED(7)が一つのLED単体で複数色に発光する複数色LEDや自己点滅LED(7A)である請求項8記載の発光傘の製造方法。

【発明の詳細な説明】

【発明の属する技術分野】本発明は、雨の夜に安全に歩行できる発光傘と製造方法に関する。

【従来の技術】雨の夜、傘をさして歩いていると傘によって視界が狭くなり、周りが見えにくく自動車等の接近するのが気がつかず非常に危険な場合がある。特に前方から風が吹いている場合には、傘を前方に傾けることが余儀なくされ、前方の対向車が見えなくなり非常に危険である。また自動車側においても、雨の日は視界が悪い上にフロントガラスがくもりやすく、前方がよく見えなくなって、特に傘をさした歩行者が黒っぽい服装で黒っぽい傘をさしていれば、発見するのがとても容易でなく非常に危険になる場合がある。そこで傘の骨の先端にLED(発光ダイオード)を設け、傘の柄(把手)部分に電池を内蔵させ、前記LEDを点灯させる公知発明として実開平1-170120号公報、実開平2-59620号公報、特開平4-5906号公報などが出願されており、点滅させる公知発明として実開昭60-69022号公報、特開昭60-45302号公報、実開平1-117213号公報(点灯又は点滅のいずれのみ)などが出願されている。ここでこれらの公知発明において、実際に実施した場合には自動車の運転者はその点灯又は点滅する光を遠方より容易に視覚することができ、前述の問題に対してある程度効果を発揮することが、本発明者の試行実験によっても確かめられた。しかしながら本発明者はその試行実験の過程で、前記公知発明にはさらに改良の余地があり、改良を加えることでよりいっそうの安全面と装飾面における効果を発揮できることを見いだした。すなわち前記公知発明においては、各LEDは開閉器をONすれば単に連続して点灯するか点滅するかのどちらかみの構成であって、安全面においては、夜発光している光はそのまま変化無く連続して発光している光よりは、点滅しながら発光している光の方がより人間の視覚に注意や警告を喚起させるものであり、発光する光を点滅させることで人に注意や警告を与えられ、そこに人の目を注視させる特性をもっている。このためその特性を応用することがさらに効果的で、そこで本発明者は「連続点灯」の発光と「点滅発光」とを使い分けることをここに提案する。例えば「連続点灯」状態から

「点滅発光」状態にぱつと切り換えることで、急な点灯状態の変化によって人の目をそこに注視させることができ、また道路の沿道を歩いている時は「連続点灯」にしておき、道路を横断する時は「点滅発光」にすれば、その場に応じた２段階の注意や警告を与えることができる。これをも「点滅発光」状態のみで沿道を歩いているれば、車の運転者は常時必要以上に注意を注ぐことになり神経が疲れてしまう。ところが公知発明の構成ではその場に応じて「連続点灯」又は「点滅発光」に可変できないものである。次に、装飾面においては、従来傘に潜在する問題点として次のことがうかがえる。本来傘は雨の日に携帯して持ち歩くものであるが、雨が降らなかつた日や室内、電車の中では「お荷物」になってしまいがちで、傘は実用面での単なる「雨よけの道具」として、装飾性に乏しく携帯する楽しさがなかつた。そして公知発明においても安全面に鑑みてなされているが、装飾性には乏しいものであった。さらに、次の問題として製造面の問題については、公知発明ではその問題が特に言及されてないが、LEDを用いて点灯又は点滅させる発光傘を実際に製造するにあたっては、大きな解決すべき問題があり、公知発明においてはその問題を解決する構成や製造方法が示されていない。例えば実開平1-170120号公報、実開平2-59620号公報、特開平4-5906号公報などに、傘の骨にLEDを固設する図が開示されているが、この公知発明の構成はLEDをリード線又は骨又はホルダーから離脱できないように固設しており、この構成においては次のようなことが実際問題として起きる。

1) 傘は往々にして乱暴に扱われやすく、特に傘の骨の先端は何かにつけやすく、そのため公知発明の固設したLEDは破損、欠落してしまう恐れがある。このためそれを防止するには頑強に構成することが必要であるが、傘の製作費にも限界があり、もし破損、欠落した場合には公知発明の構成では修理が容易でなく、場合によっては傘の寿命ということになりかねない。(以上前記公知3発明)

2) LEDをリード線又は骨に固設する構成で傘を試作的に製作することは可能であるが、実際に傘の量産においては一つ一つのLEDをリード線に接続固定して製造することはその製造工程がとても難しく、また後述する生産性が低い。(以上前記公知2発明)

【発明が解決しようとする課題】本発明は、前記公知発明及び従来の傘に潜在する安全面、装飾面、製造面の問題に鑑みてなされたもので、その目的は安全面では傘の骨に沿って設ける各LEDを「連続点灯」と「点滅発光」の２段階に切り換え発光させる構成にすることで、運転者にその場に比例した注意や警告の喚起を２段階で促せるようにして、最も効果的な安全性を発揮させることであり、また装飾面ではいくつかの点滅パターンを予め用意しておき、それらを選択して切り換え発光できる

ようにすることで、電飾的な美観をもった装飾性のあるファッションブルな発光傘を提供することである。また製造面においては、最も生産性が良くしかも修理交換が簡単なアフターケアを考慮した発光傘を提供することである。また最も安価な構成でできる点滅発光傘を提供することにもある。

【課題を解決するための手段】本発明は前記課題を解決するために、安全面、装飾面においては、傘を構成する骨(3)に沿って配線するリード線(9)の少なくとも1か所にLED(7)を設け、該リード線(9)を前記骨(3)沿いと支柱(4)内、又は前記骨(3)沿いのみに通して配線し、該各リード線(9)と回路接続する電源電池(8)と切り換え開閉器(10)と点滅回路(11)を、それぞれ握り(5)又は石突き(12)に設け、前記切り換え開閉器(10)によって各LED(7)を「消灯」「連続点灯」「点滅発光」のいずれかに切り換えて発光させる構成である。また前記点滅回路(11)において、各LED(7)の(7)の一つ一つの点滅周期を各々可変して給電する制御部(11a)を設け、該制御部(11a)によって予め設定した各LED(7)の(7)の点滅周期に応じた少なくとも2種以上の点滅パターンを用意し、点滅パターン切換器(10A)によってその点滅パターンのいずれかに切り換え選択して発光させる構成であり、また切り換え開閉器(10)と点滅パターン切換器(10A)の両体を一体にした点滅切り換え開閉器(10B)を前記回路に設け、その点滅切り換え開閉器(10B)によって各LED(7)の(7)の「消灯」「連続点灯」「点滅パターン①」「点滅パターン②」のいずれかに切り換え発光させる構成である。また安価に点滅させる構成として自己点滅LEDを設けることで、点滅回路を設けなくてもそのLEDが自己点滅して発光する構成にするものである。また製造面においては、リード線(9)に所要数のソケット(14)を接続固定して製造し、次に骨(3)に沿ってそのリード線(9)を配線し、次に前記ソケット(14)へ各LED(7)を挿脱可能に設けて製造する製造方法である。またLED(7)に給電するリード線(9)の先端部にソケット(14)を接続固定して製造し、次に該ソケット(14)を骨(3)の先端に位置させ、同ソケット(14)にLED(7)を挿脱可能に装備させ、次に該LED(7)を光透過性の保護キャップ(15)で覆い、前記骨(3)に装設して製造する製造方法である。また傘を構成する骨(3)と支持部(6)と支柱(4)の少なくとも一つを各LED(7)に給電する通電部として回路接続する構成にすることもできる。

【発明の実施の形態】本発明が実施する形態を以下に列挙し、詳細については実施例で説明する。

\*LEDは全部の骨に添設してもよいし、選択した骨のみに添設してもよい。



\*一本の骨に沿って添設するLEDは1個のみでもよいし、複数個でもよい。

\*骨に沿って配線するリード線は、骨が中空であれば中を通してよいし、忠実であれば外側に沿って配線してもよい。

\*LEDは赤色に限らず緑色や青色でもよいし、各々混在させてもよい。

\*各LEDを点滅させる周期及びその点滅パターンは点滅回路の制御部によっていろいろ設定できる。

\*電源となる電池はバッテリーであってもよい。

【実施例】本発明を図面を基に説明する。

#### 実施例1

図1は、本発明の実施例1を示すものである。まず従来の傘1の構成として、支柱4の下端に握り5があり、支柱4の上部には支持部6があり、支持部6に軸支された骨3が複数本（通常8本）あり、骨3に張設したシート2で構成される。この構成において、図1(a)は本発明の実施例1を示す正面図、図1(b)は下から見た底面図を示すものである。8本の骨3の各先端部に赤色のLED7を回路接続して設けたもので、この回路構成としては図7に示す構成であり、8個のLED7、7・・・・7をそれぞれ並列に接続し、電池8と切り換え開閉器10及び点滅回路11とを回路接続し、LED7、7・・・・7を「OFF」「連続点灯」「点滅発光」に切り換えられるようにしたものである。ここで各構成部の説明をする。LED7は図5に示すように、2本の+極と一極のリード線9、9をソケット14の電極端子14b、14bにそれぞれはんだ接続し、そのリード線9、9を骨3の内側に配線して、骨3の先端にソケット14を位置させ、その各電極孔14a、14aにLED7の2つの端子を差し込んで接続した後、保護キャップ15を覆せて設けたものである。保護キャップ15は光透過性の合成樹脂で形成し、容易に外れることがないようにロックする嵌合式や螺合式に設け、覆せた状態では外力が直接LED7に加わらないようにしてLED7の破損を防止している。保護キャップ15は割れにくい柔軟な素材で構成することができる。ソケット14は骨3の先端に固設してもよいし、固設しないでもよい。図4に示すように、電源部を握り5に設けて、回転切り換え式の切り換え開閉器10を握り5の上部側部に設け、点滅回路11を握り5の上部内部に設ける。そして図7の回路構成で点滅回路11は図示しないが、電解コンデンサとIC(LM3909)によって構成できる。次に単5型電池8を2本直列にして握り5内の電池ホルダー13に収納して設け、握り5の上部は螺合式で着脱構造に設ける。LED7、7・・・・7と接続するリード線9、9・・・・9は各骨3内に配線し、支持部6で各同極どうし接続した後、この各リード線9、9を若干余裕をもたせて支柱4内を通して配線し、切り換え開閉器10と点滅回路11と電池ホルダー13の各端子と回路接続する。この支

柱4内を配線したリード線9、9の接続は図示しないコネクタで接続でき、また直に接続してもよい。この構成で各リード線9、9は傘1を折り畳む際、支柱4内に配線しているため邪魔にならず、しかも支持部6で若干長さの余裕をもたせてあるため、屈曲による断線の恐れがない。この構成による実際の使用は、図7の回路構成にして、握り5に設けた切り換え開閉器10を回転させて切り換え操作し、例えば「点滅」に固定すれば、傘1の周りに設けた8個のLED7、7・・・・7が同時に一気に点滅発光し、そして「点灯」に固定すれば一気に連続点灯で発光する。ここで点滅発光の点滅周期は点滅回路11内の制御部11aの回路構成を変えることで可変できる。この各LED7が点滅した発光は遠くからは立体的な楕円状に見え、丸い傘が周期的に楕円状に浮かび上がって視覚できると共に、暗がりでは非常に際立って見えるため注意や喚起を促し、その効果は連続で点灯しているよりは効果が大きい。また傘1を傾ければ、その傾きによって多様な楕円（最大円）形状で周期的に光り、浮かび上がって見えるため人の目を注視させると共に美観を与える。ここでLED7、7・・・・7を赤色のみでなく、緑色で構成して緑色の点滅にしたり、赤色と緑色を混在させて点滅することもでき、さらに電飾的な美観を備えた点滅発光になる。点灯又は点滅の切り換えは切り換え開閉器10によって瞬時にしてでき、その場の状況に応じて切り換えられるため、特に危険を予知する場合には瞬時にして赤く点滅発光させることが危険を知らせるために特に効果的である。尚、未使用時は切り換え開閉器10を「OFF」に固定することで、各LED7は点灯も点滅もしないままにして保管できる。尚、リード線9を骨3と支柱4内を通して配線したが、骨3や支持部6や支柱4を1極側の通電部として回路接続することもできる。次に製造方法として、LED7に給電するリード線9の先端部にソケット14を接続固定して製造し、次に該ソケット14を骨3の先端に位置させ、同ソケット14にLED7を挿脱可能に装備させ、このLED7を光透過性の保護キャップ15で覆い、前記骨3に装着して製造する製造方法にすることで、保護キャップ15に覆われてLED7が破損しにくく、仮に傘を使用中にLED7が破損したとしても、新しいLEDと差し替えることが可能で簡単に修理交換ができる。また製造工程においては、ソケット14を例えば赤いLEDと緑のLEDのどちらでも抜き差しできるように構成することができるため、リード線9にそのソケット14を接続固定したワイヤーハーネスアッセイを赤と緑の両用に共通化できて、製造工程での部品点数を最小限にでき、製造工程が簡単で生産しやすくなる。

#### 実施例2

図2は、本発明の実施例2の構成を示すものである。傘1を構成する8本の骨3に対して、リード線9、9の3個所に並列に接続した各ソケット14を設けて、それぞ

れに各LED7a1、7b1、7c1／・・・／7a8、7b8、7c8の各端子をそれぞれ差し込んでそのリード線9、9を骨3に沿って設けたものである。リード線9、9と各ソケット14、14Aとの接続固定の仕方は、例えば図13に示すような構成で、2本のリード線9、9の先端には円柱状のソケット14とその電極端子14b、14bとをはんだ接続して固定し、リード線9、9の適当な2か所で被覆を剥いで露出させた芯線に3mm(横)×6mm(縦)×2.5mm(高さ)程の大きさのソケット14A、14Aをそれぞれ各電極端子14b、14bとをはんだ接続して固定したものである。ここで各ソケット14A、14Aとリード線9との接続は、ひと続きの一本のリード線9によって接続してもよいし、各ソケット間をつなぐリード線9をそれぞれ用意して分割して接続してもよい。ここでソケット14とソケット14A、14Aと接続したリード線9、9は傘本体とは別にして、一つのワイヤーハーネスアッセイとして製造することができ、各骨3に配線するリード線9、9をそれぞれ束ねてその先端を前述の電源部とコネクタ接続するワイヤーハーネスアッセイ体を造ることができる。図13及び図14で示す一つ一つのワイヤーハーネスアッセイは後述する生産性をあげることができる。この図13及び図14で示すワイヤーハーネスアッセイの傘への取付方法としては、骨3が中空な場合は図15に示すように骨3内にリード線9、9を通し、はめ込み式にするか適所を図示しない係止部材で固定するか又は接着剤で固定することができる。そして固定した状態で両端子が同方向に突出されたLED7を、リード線9、9の先端に固定したソケット14の電極孔14a、14aに差し込み、その上から保護キャップ15を実施例1の図5と同様に覆せて骨3に固定する。次に端子が互いに反対方向に突出された実施例として、2.2mm(横)×3mm(縦)×1.5mm(高さ)程の大きさのLED7B(松下電子工業型番LN0120CAL)を、前記ソケット14Aの電極孔14a、14aに差し込み固定する。ここでLED7Bは前記した微小な大きさであるため、骨3上に固定した状態にしてシート2で覆っても何ら邪魔にならない。尚、骨3が中空でなく中実な場合は、リード線9、9を骨3の外側に沿わせて配線してもよいし、またリード線9とソケット14、14Aの電極端子14bとの接続は、はんだ接続に限らず圧着具等でもかきめて機械的に接続してもよい。またリード線9と接続固定するソケットは、ソケット14Aタイプの構成のみにしてリード線9の先端を含めて各位置に設けてもよい。この構成によって、LED7、7Bをそれぞれ接続固定した構成にして、図8に示すのはその全LED7a1、7b1、7c1／・・・／7a8、7b8、7c8を各々並列接続した一つの実施例を示す回路構成である。ここでまず切り換え開閉器10で「点灯」に接続し、連続点灯させれば、その発光する光は立体的な上半

球状に見え、実施例1よりさらに傘の形状が浮彫りにブラネタリウムのように立体的に視覚でき、しかも傘1全体がさらにきらびやかに明るく際立って見える。また傘1を傾けることによって、各発光する光が重なり合ったり、交錯したりしてさらに一層美観を与える。次に切り換え開閉器10を「点滅」に切り換え、点滅回路11と接続すれば、予め制御部11a内の回路に設定したいくつかの点滅パターンがあり、その点滅パターンは点滅パターン切換器10Aによって切り換えられ所望の点滅パターンで発光させることができる。その点滅パターンは制御部11a内の回路で各LED7、7・・・7に給電する周期を一つ一つ可変設定することでなされる。その制御部11a内の一つの実施回路例を図9に示す。ここで示す回路はシフトレジスタを利用しており、シリアル入力とパラレル出力タイプのシフトレジスタを使用しており、この回路構成を利用して例えば図10に示すような点滅パターンを用意し、点滅パターン切換器10Aによって切り換え各々点滅させることができる。その各点滅パターンの例を示すと

- (a) 各LEDが順に点灯していき、全点灯して全消灯する点滅パターン
- (b) 各LEDがひとつおきに交互に点滅を繰り返す点滅パターン
- (c) 各LEDが同時に点滅を繰り返す点滅パターン
- (d) 2つのLEDと1つのLEDが交互に点滅を繰り返す点滅パターン
- (e) 各LEDがルーレット状に1つづつ点滅していく点滅パターン

などで設定できるが、他にも様々な設定できる。また点滅速度はボリューム11bによって可変できる。図11は切り換え開閉器10と点滅パターン切換器10Aの両器を一体にして一つの開閉器で切り換えられるようにしたもので、その点滅切り換え開閉器10Bで各LED7を、「消灯」「点灯」「点滅パターン①」「点滅パターン②」・・・に各々切り換えられるようにでき、この構成にすることで全ての切り換え操作が一つの切換器でできて非常に簡単に操作できる。ここで、前述の図13に示したワイヤーハーネスアッセイにおいて、例えば先端に接続したソケット14のみにLED7を接続し、他のソケット14Aは空きのままにして骨3に設けてもよく、こうすることで実施例1と同様の構成にして実施できる。また各ソケット14、14Aには、LED7、7Bを挿脱自在に構成してあるため、例えば赤いLEDを接続して構成したり、又は緑のLEDを接続して構成したり、或は混在させて構成したりと、図示の一つのワイヤーハーネスアッセイで全て共通化でき、このためワイヤーハーネスアッセイを各共通化できるため、多種類の発光傘を製作する場合も、部品点数を減らすことができ、製造が簡単でしかも低コストで生産できる。ここで、図14に示すように、ワイヤーハーネスアッセイを

各々独立したリード線9、9と各ソケット14、14Aとを接続固定して別接続で構成することもでき、このように構成することで、一つの骨3に設けたLED7B、LED7B、LED7をそれぞれ別々に点灯又は点滅させる制御ができる。また図16に示すように、ソケット14、ソケット14Aの電極端子14bの各一端を可撓性をもたせて、金属製の骨3に機械的に接触させて通電するように構成してもよい。各LEDには給電する電流を数10mAに制限する抵抗器Rを直列に接続する必要があり、そのため骨3は特に抵抗値の低いものでなくてもよく、鉄材であれば十分に通電の役目を果たしこの構成で実施できる。また前記した図14のワイヤーハーネスアッセイの構成によって、傘1の発光する点滅パターンはさらにさまざまな点滅パターンで編成でき、例えばLED(7c1・・・7c8)→(7b1・・・7b8)→(7a1・・・7a8)の順に傘の上方から下方に向けて点灯又は点滅させたりすることができる。ここで点滅回路11は回路構成する各素子を集積化してチップ状にし、図4に示す握り5の上部内に納めることができる。

#### 実施例3

図3は、本発明の実施例3の構成を示すものである。傘1を構成する8本の骨3のうち、ひとつおきの4本の骨3の先端に発振チップを内蔵した自己点滅LED7Aを設けたもので、図12に示す回路接続にすれば4個の自己点滅LED7Aを自己点滅して発光させることができる。この構成にすれば点滅のための回路を接続しなくても自己点滅し、非常に安価に製作実施できる。尚、実施例1、2と同様に8本の骨3に適当数のLED7Aを添設してもよい。

#### 実施例4

図6は、本発明の実施例4の構成を示すものである。電池8を収納する電池ホルダー13と点滅切り換え開閉器10Bと点滅回路11とを、中心部が中空な一体成形体にしたものを石突き12に嵌設したものである。前実施例のように握り5で切り換え開閉操作をしてもよいが、この実施例の構成のように石突き12にでも切り換え開閉操作することができ、特に折畳み傘には適した構成である。尚、本発明の構成として、LED7を一つのLED単体で複数色に発光する複数色LEDによって構成することもできる。またLED7を追加して石突き12の頂点又は内部に設けて発光させることもできる。また前記構成で石突き12に電池ホルダー13と切り換え開閉器10又は点滅パターン切換器10A又は点滅切り換え開閉器10Bのいずれかと点滅回路11とを内設させるようにしてもよい。またリード線9は同軸ケーブルで構成してもよい。また折畳み式の傘において、骨3に沿ってリード線9を配線し、そのリード線9を、図12に示す支柱4内に設けた摺動式に接触通電する摺動式電極16、16と接続する構成にしてもよい。ここで支柱4を

1極にして通電し、この摺動式電極16を1極のみの構成にもできるし、また支柱4の周面に設けることもできる。

【発明の効果】前述のように本発明は、安全面では傘の骨に沿って設けた各LEDを「連続点灯」又は「点滅発光」に切り換えて発光できるため、運転者にその場の危険状況に応じた注意や警告を2段階にして喚起でき、最も効果的に注視させて安全な発光傘を提供することができる。また装飾面では、予め用意したいくつかの点滅パターンを所望のパターンに選択切り換えて発光でき、その光景は電飾的な美観と装飾性をもちファッションブルな傘を提供できる。また製造面では、予め所要数のソケットを接続固定したリード線をハーネスアッセイとして製造して共通化でき、次工程でLEDを挿脱可能に装備する製造方法であるため、製造が簡単で最も生産性が良く、しかも生産後も修理交換のアフターケアが簡単にできる発光傘を製造できる。また保護キャップを骨の先端に具備したLEDに覆せて装設する構造で発光傘を製造することで、実際の使用で乱暴な扱いがなされても、LEDが容易に破損されにくい丈夫な発光傘を提供できる。また点滅回路を用いず自己点滅LEDで構成することによって、最も安価な製作費でできる点滅発光傘を提供できる。また点滅発光する構成でその間電池の消費を少なくすることも同時にできる。

#### 【図面の簡単な説明】

- 【図1】 (a) 本発明の一実施例の正面図  
(b) 本発明の一実施例の底面図
  - 【図2】 (a) 本発明の一実施例の正面図  
(b) 本発明の一実施例の底面図
  - 【図3】 (a) 本発明の一実施例の正面図  
(b) 本発明の一実施例の底面図
  - 【図4】 本発明の一実施例の一部構成を示す断面図
  - 【図5】 本発明の一実施例の一部構成を示す断面図
  - 【図6】 (a) 本発明の一実施例の正面図  
(b) 本発明の一実施例の一部構成を示す斜視図
  - 【図7】 本発明の一実施例の回路構成図
  - 【図8】 本発明の一実施例の回路構成図
  - 【図9】 本発明の一実施例の回路構成図
  - 【図10】 本発明の実施例の各点滅パターンのタイミングチャート
  - 【図11】 本発明の一実施例の回路構成図
  - 【図12】 本発明の一実施例の一部構成を示す断面図
  - 【図13】 本発明の一実施例の一部構成を示す斜視図
  - 【図14】 本発明の一実施例の一部構成を示す斜視図
  - 【図15】 本発明の一実施例の一部構成の組立斜視図
  - 【図16】 本発明の一実施例の一部構成の組立斜視図
- 【符号の説明】
- 1 : 傘
  - 3 : 骨
  - 4 : 支柱

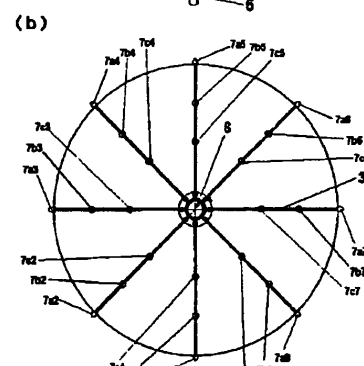
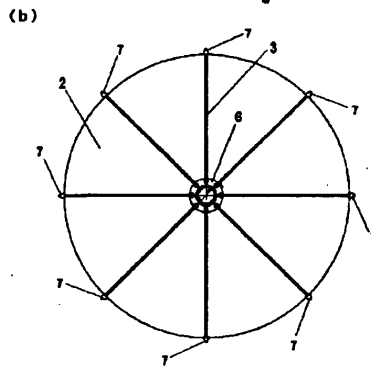
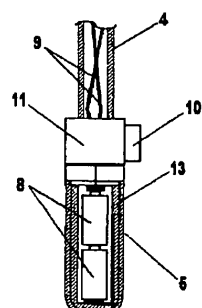
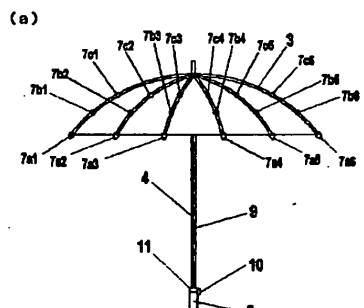
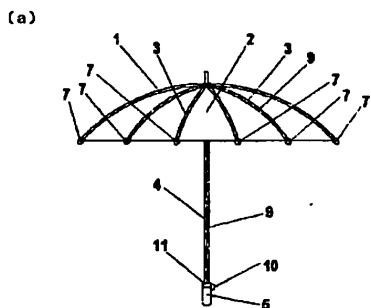
- 5 : 握り
- 7 : LED
- 7A : 自己点滅LED
- 8 : 電池
- 9 : リード線
- 10 : 切り換え開閉器

- 10A : 点滅パターン切換器
- 10B : 点滅切り換え開閉器
- 11 : 点滅回路
- 11a : 制御部
- 14 : ソケット
- 15 : 保護キャップ

【図1】

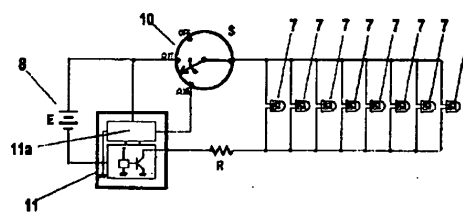
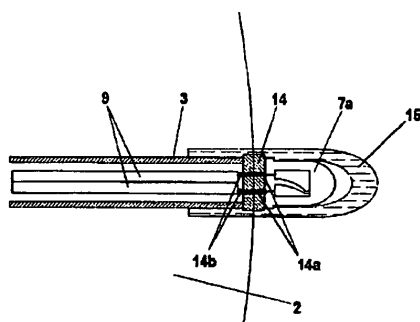
【図2】

【図4】

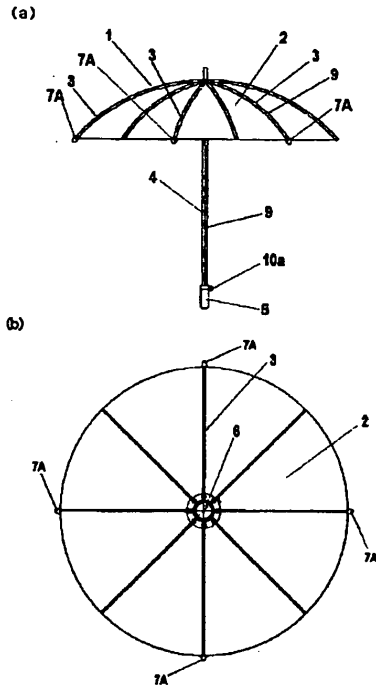


【図5】

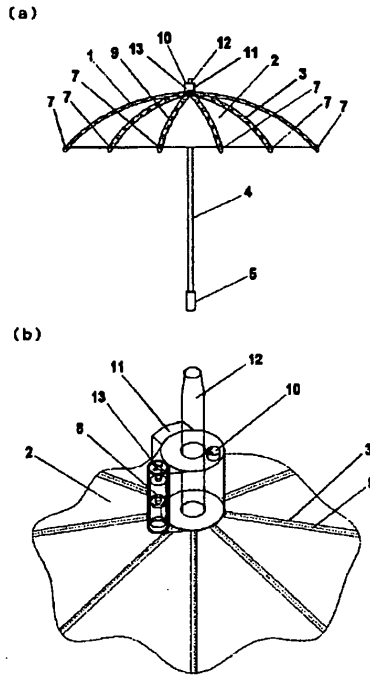
【図7】



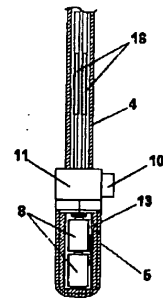
【图3】



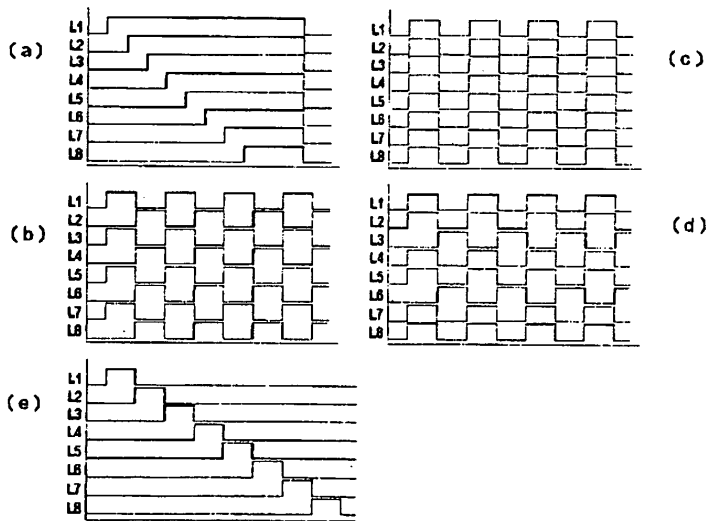
【图6】



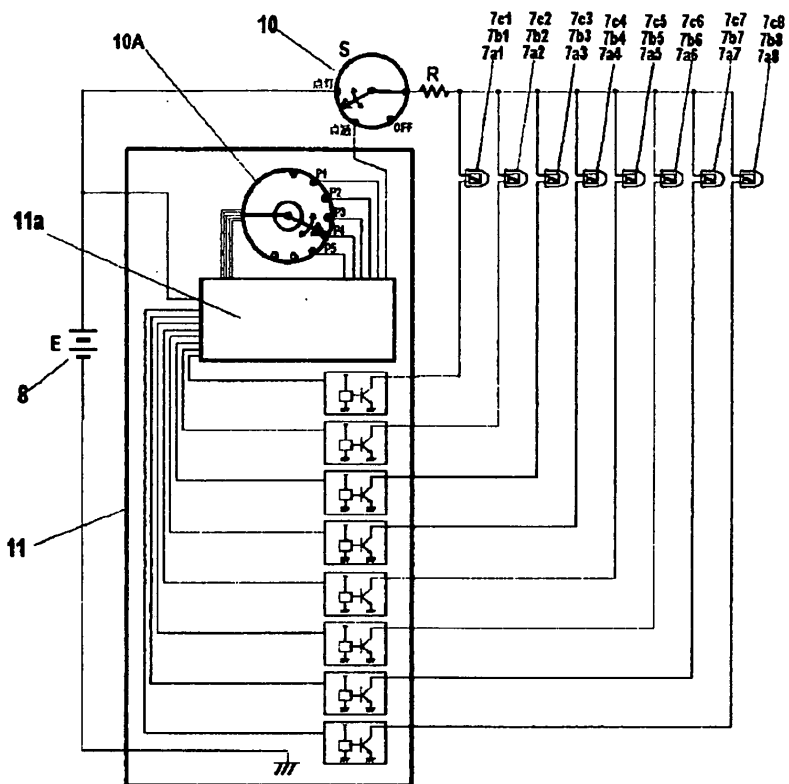
【图12】



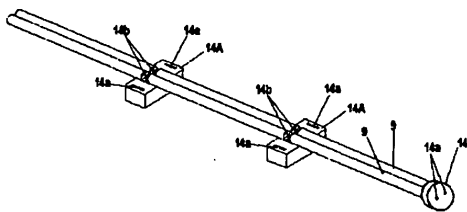
【图10】



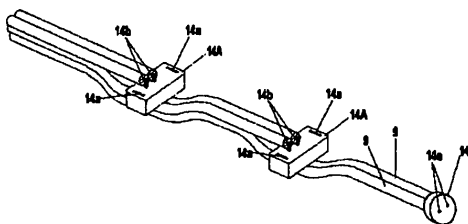
【图 8】



【图 13】

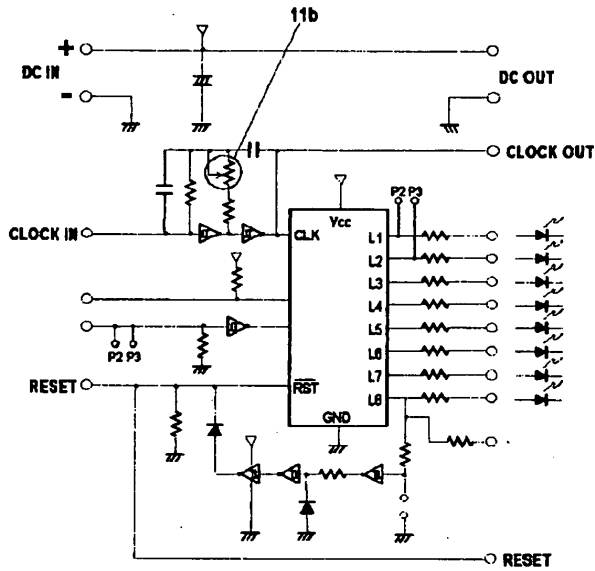


【图 14】

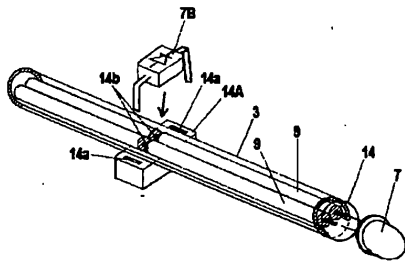


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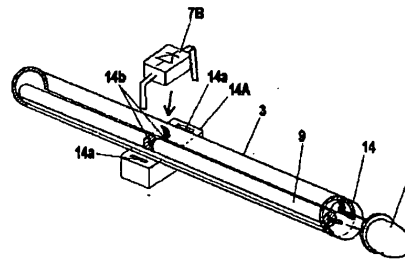
【图9】



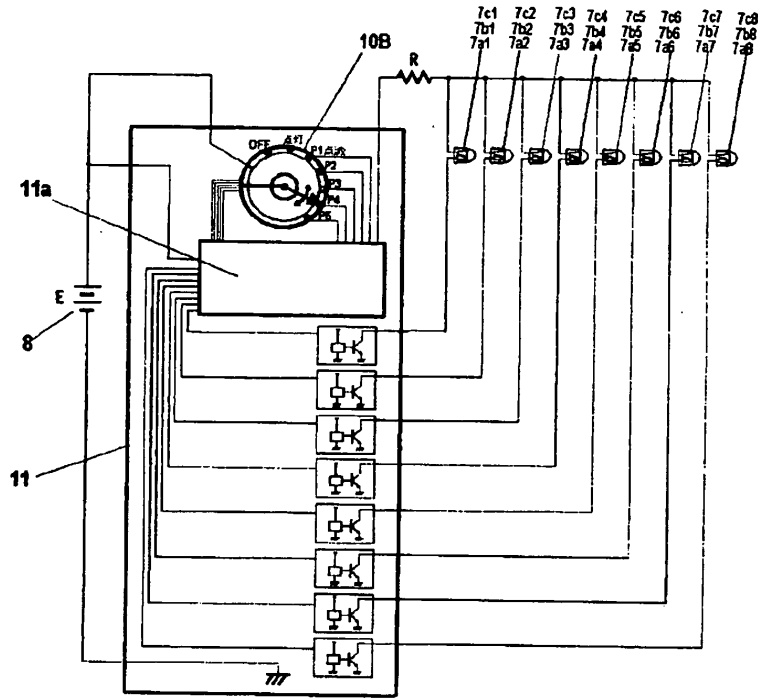
【图15】



【图16】



【图 11】





Re Exam



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0664MH-40982-REX

Reexamination of:

**GREGORY G. KUELBS**

Control No. 95/000,104

Patent No. 6,612,713

Issued: 2 SEPTEMBER 2003

For: **UMBRELLA APPARATUS**

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Examiner: **MARGARET WAMBACH**

Art Unit: 3992

TRANSMITTAL

**MAIL STOP: INTER PARTES REEXAM**

Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450



Sir:

Please file the following documents in the subject reexamination application:

1. This Transmittal with Certificate of Mailing;
2. Information Disclosure Statement, Form PTO/SB/08A, and Form PTO/SB/08B; and
3. Our return postcard which we would appreciate you date stamping and returning to us.

<b>CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8(a)</b>	
Date of Deposit:	<u>12/23/05</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail with sufficient postage under 37 C.F.R. §1.8(a) on the date indicated above and is addressed to Mail Stop: Inter Partes Reexam, Central Reexamination Unit, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.	
By:	<u>Janis E. Walks</u>

**Proof of Service:**

Pursuant to 37 C.F.R. § 1.903, a true and correct copy of this Transmittal and the Information Disclosure Statement filed herewith has been served on the third-party requester. Pursuant to 37 C.F.R. § 1.248(a)(4), the undersigned hereby certifies that a true and correct copy of this Transmittal and the Information Disclosure Statement was served on the third-party requester's attorney of record, Robert E. Richards, by First Class Mail with sufficient postage at Kilpatrick Stockton LLP, 1100 Peachtree Street, Suite 2800, Atlanta, Georgia 30309 on 23 December 2005.

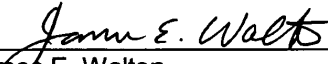
**Conclusion:**

No fees are deemed to be necessary; however, the undersigned hereby authorizes the Director to charge any additional fees that may be required, or credit any overpayments, to **Deposit Account No. 502806**.

**Please link this reexamination application to Customer Nos. 50779 and 38441 so that its status may be checked via the PAIR System.**

Respectfully submitted,

12/23/05  
Date

  
\_\_\_\_\_  
James E. Walton  
Reg. No. 47,245  
Brian E. Harris  
Reg. No. 48,383  
Law Offices of James E. Walton, P.L.L.C.  
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jim@waltonpllc.com

**CUSTOMER NOS. 50779 and 38441**

**ATTORNEYS AND AGENTS FOR PATENTEE**



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0664MH-40982-REX

Inter Reexamination of:

**GREGORY G. KUELBS**

Control No. **95/000,104**

Patent No. **6,612,713**

Issued: **2 SEPTEMBER 2003**

For: **UMBRELLA APPARATUS**

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Examiner: **MARGARET WAMBACH**

Art Unit: **3992**

**INFORMATION DISCLOSURE STATEMENT**

**MAIL STOP: INTER PARTES REEXAM**

Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

In accordance with 37 C.F.R. §1.56, the references listed on the attached forms PTO/SB/08A and PTO/SB/08B (substitutes for form 1449/PTO) are being brought to the attention of the Examiner for consideration in connection with the reexamination of the subject patent.

<b>CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8(a)</b>	
Date of Deposit:	<u>12/23/05</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail with sufficient postage under 37 C.F.R. §1.8(a) on the date indicated above and is addressed to Mail Stop: Inter Partes Reexam, Central Reexamination Unit, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.	
By:	<u>Jane E. Wells</u>

The filing of this Information Disclosure Statement shall not be construed to be a representation that a search has been conducted, nor shall it be construed as an admission that the information cited in the statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

Each of U.S. Patent Application Serial No. 11/199956, U.S. Patent Application Serial No. 10/829790, and U.S. Patent Application Serial No. 10/650537 contain technical disclosure in common with and claim priority to the subject patent.

It is respectfully requested that the Examiner return a copy of each attached form PTO/SB/08A and PTO/SB/08B with initials or other appropriate marks indicating consideration of the cited materials.

**Proof of Service:**

Pursuant to 37 C.F.R. § 1.903, a true and correct copy of this Information Disclosure Statement has been served on the third-party requester. Pursuant to 37 C.F.R. § 1.248(a)(4), the undersigned hereby certifies that a true and correct copy of this Information Disclosure Statement was served on the third-party requester's attorney of record, Robert E. Richards, by First Class Mail with sufficient postage at Kilpatrick Stockton LLP, 1100 Peachtree Street, Suite 2800, Atlanta, Georgia 30309 on 23 December 2005.

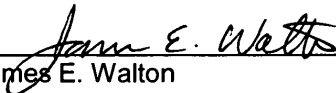
**Conclusion:**

No fees are deemed to be necessary; however, the undersigned hereby authorizes the Director to charge any additional fees that may be required, or credit any overpayments, to **Deposit Account No. 502806**.

**Please link this reexamination application to Customer Nos. 50779 and 38441 so that its status may be checked via the PAIR System.**

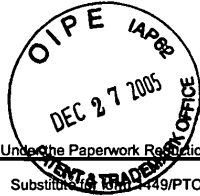
Respectfully submitted,

12/23/05  
Date

  
\_\_\_\_\_  
James E. Walton  
Reg. No. 47,245  
Brian E. Harris  
Reg. No. 48,383  
Law Offices of James E. Walton, P.L.L.C.  
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(817) 447-9955 (Voice)  
(817) 447-9954 (Facsimile)  
jim@waltonpllc.com

**CUSTOMER NOS. 50779 and 38441**

**ATTORNEYS AND AGENTS FOR PATENTEE**



PTO/SB/08A (07-05)

Approved for use through 07/31/2006. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<p>Substitution of 15M/149/PTO</p> <h2 style="text-align: center;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT</h2> <p style="text-align: center;">(Use as many sheets as necessary)</p>	<p style="text-align: center;"><b>Complete if Known</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Application Number</td> <td>95/000,104</td> </tr> <tr> <td>Filing Date</td> <td></td> </tr> <tr> <td>First Named Inventor</td> <td>Gregory G. Kuelbs</td> </tr> <tr> <td>Art Unit</td> <td>3992</td> </tr> <tr> <td>Examiner Name</td> <td>Margaret Wambach</td> </tr> <tr> <td>Attorney Docket Number</td> <td>0444MH-40982-REX</td> </tr> </table>	Application Number	95/000,104	Filing Date		First Named Inventor	Gregory G. Kuelbs	Art Unit	3992	Examiner Name	Margaret Wambach	Attorney Docket Number	0444MH-40982-REX
Application Number	95/000,104												
Filing Date													
First Named Inventor	Gregory G. Kuelbs												
Art Unit	3992												
Examiner Name	Margaret Wambach												
Attorney Docket Number	0444MH-40982-REX												
Sheet 1 of 1													

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AB	US- 6666224-B2	12-23-2003	Lee, Chong-Cheng	
	AC	US- 6499856-B2	12-31-2002	Lee, Chong-Cheng	
	AD	US- 6341873-B1	01-29-2002	Yang, Chiu-Hsiung	
	AE	US- 6298866-B1	10-09-2001	Molnar, IV, William F.	
	AF	US- 6270230-B1	08-07-2001	Mai, Kuei Ying	
	AG	US- 6089727	07-18-2000	Wu, Tsun-Zong	
	AH	US- 5664874	09-09-1997	Winterer, Allen G.	
	AI	US- 5463536	10-31-1995	Chou et al.	
	AJ	US- 5273062	12-28-1993	Mozdzanowski, Peter	
	AK	US- 5126922	06-30-1992	Andreassen	
	AL	US- 2005/0072451-A1	04-07-2005	Vivian, Charlie, et al.	
	AM	US- 2002/0078985-A1	06-27-2002	Farr, Fariss	
		US-			
		US-			
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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				

Examiner Signature	Date Considered
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<sup>1</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>2</sup>Applicant's unique citation designation number (optional). <sup>3</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>4</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>5</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>6</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>7</sup>Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

YOT-1003-0446

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>		Application Number	95/000,104
		Filing Date	
		First Named Inventor	Gregory G. Kuelbs
		Art Unit	3992
		Examiner Name	Margaret Wambach
		Attorney Docket Number	0444MH-40982-REX
Sheet	1	of	1

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	AN	U.S. Patent Application Serial No. 11/199956 titled "Umbrella Apparatus" filed on 08-09-2005	
	AO	U.S. Patent Application Serial No. 10/829790 titled "Umbrella Apparatus" filed on 04-22-2004	
	AP	U.S. Patent Application Serial No. 10/650537 titled "Umbrella Apparatus" filed on 08-28-2003	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.  
<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.  
 This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

YOT-1003-0447

## IFW Reference Manager

Application Number:

**Application Number 95/000,104**

**Testing 1686716 - Form PTO-1449, 27-DEC-2005, Paper Number 122705**

Document Number	Date	Inventor Names	Classification
<a href="#">US-5,126,922</a>	06-1992	Andreasen, Ib R.	362/577
<a href="#">US-5,273,062</a>	12-1993	Mozdzanowski, Peter	135/16
<a href="#">US-5,463,536</a>	10-1995	Chou et al.	362/577
<a href="#">US-5,664,874</a>	09-1997	Winterer, Allen G.	362/191
<a href="#">US-6,089,727</a>	07-2000	Wu, Tzun-Zong	362/102
<a href="#">US-6,270,230</a>	08-2001	Mai, Kuei Ying	362/102
<a href="#">US-6,298,866</a>	10-2001	Molnar, IV, William F.	135/16
<a href="#">US-6,341,873</a>	01-2002	Yang, Chiu-Hsiung	362/102
<a href="#">US-6,499,856</a>	12-2002	Lee, Chorng-Cheng	362/102
<a href="#">US-6,666,224</a>	12-2003	Lee, Chorng-Cheng	135/16

### EAST Search String:

("5126922"|"5273062"|"5463536"|"5664874"|"6089727"|"6270230"|"6298866"|"6341873"|"6499856"|"6



66548 U.S. PTO

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



01/13/06

Reexamination of: )  
 )  
**Gregory G. Kuelbs** )  
 )  
 Control No. **95/000,104** )  
 )  
 Patent No.: **6,612,713** )  
 )  
 Issued: **September 2, 2003** )  
 )  
 Assignee: **WORLD FACTORY, INC.** )

Examiner: **Margaret Wambach**

Art Unit: **3992**

**COMMENTS OF THIRD PARTY REQUESTER TO PATENT OWNER'S  
 RESPONSE TO NOTICE RE DEFECTIVE PAPER IN *INTER PARTES*  
 REEXAMINATION AND RESPONSE TO ORDER GRANTING *INTER PARTES*  
 REEXAMINATION AND TO OFFICE ACTION IN *INTER PARTES*  
 REEXAMINATION**

Mail Stop Ex Parte Reexam  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450



Sir:

Third party requester, Southern Sales & Marketing Group, Inc. ("Southern Sales"), pursuant to 37 CFR §§1.947 and 1.948, hereby submits its comments to the "Response To Notice Re Defective Paper In *Inter Partes* Reexamination And Response To Order Granting In *Inter Partes* Reexamination And To Office Action In *Inter Partes* Reexamination" by the patent owner, World Factory, Inc. ("World Factory"), dated December 12, 2005.

**Notice Re Defective Paper In *Inter Partes* Reexamination**

On December 5, 2005, the Office issued a "Notice Re Defective Paper In *Inter Partes* Reexamination" directed to the response and amendment filed by World Factory on

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on January 11, 2006.

Debra Robton

YOT-1003-0449

November 21, 2005. In the Notice, the Patent Office advised World Factory that its amendment did not comply with 37 CFR 1.530 because there was, *inter alia*, (1) no statement of support for newly added Claims 15-44; and (2) the Certificate of Service did not have the date of service on the Third Party Requester.

World Factory's "Response To Notice Re Defective Paper In Inter Partes Reexamination And Response To Order Granting *Inter Partes* Reexamination And To Office Action In *Inter Partes* Reexamination" dated December 12, 2005 still does not comply with 37 CFR 1.530 for the same two reasons identified above.

**Claims 1-5**

Southern Sales incorporates herein by reference its comments regarding Claims 1-5 set forth in Southern Sales' "Comments Of Third Party Requester To Patent Owner's Response In *Inter Partes* Reexamination And To Office Action" filed December 15, 2005.

**Claims 15-44**

World Factory has not identified Claims 15-44 as cancelled and has not identified Claims 45-74 as new. Since World Factory states in its response that "Claims 15-44, which were submitted with the Patent Owner's 18 November 2005 Response, are hereby cancelled," Southern Sales assumes that those claims are no longer pending in this reexamination. However, if Claims 15-44 are still pending in this reexamination, Southern Sales incorporates herein by reference its comments regarding Claims 15-44 contained in its "Comments Of Third Party Requester To Patent Owner's Response In *Inter Partes* Reexamination And To Office Action" filed December 15, 2005.

**Claims 45-74**

World Factory has attempted to add Claims 45-74. However, since those claims do not comply with 37 CFR 1.530, Southern Sales does not know whether Claims 45-74 are actually pending in this reexamination. If Claims 45-74 are pending in this reexamination, Southern Sales incorporates herein its comments regarding Claims 15-44 contained in its “Comments Of Third Party Requester To Patent Owner’s Response In *Inter Partes* Reexamination And To Office Action” filed December 15, 2005, since World Factory indicates that Claims 45-74 correspond to Claims 15-44. Specifically, Southern Sales submits that new Claims 45-74 are not patentably distinct from the references of Combinations I through IV of the Office Action. Southern Sales submits that Claims 45-74 are not patentable for the additional reasons set forth below.

**Claims 45 to 47** – Claims 45-77 are not patentable under 35 U.S.C. §103(a) in view of Combinations I, II and/or III. Claims 45-74 are not patentable under 35 U.S.C. §112, first and second paragraphs, because the term “common housing”, is vague and indefinite, fails to particularly point out and distinctly claim the alleged invention and the specification is not enabling for a housing other than one located completely above the canopy portion and supported by the top of the pole, as shown in Fig. 6-9. The term “common housing” is vague and indefinite because it cannot be determined whether housing the rechargeable batteries in the pole portion with the solar collector disposed atop the pole portion and above the canopy portion, such as shown in Fig. 1, is considered to be in a “common housing.”

**Claim 48** – Claim 48 is not patentable under 35 U.S.C. §103(a) in view of Combinations I, II and/or III. Claim 48 is also not patentable under 35 U.S.C. §112, first and

second paragraphs, for the same reasons set forth above regarding Claims 45-74. In addition, there is no support in the specification for the “common housing” being “at least partially above the canopy.”

**Claims 49 to 50** – Claims 49-50 are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Phyle discloses that the lighting system can comprise at least one lighting device secured to each rib member.

As shown in FIG. 4, at least one lighting device 12 is secured to a rib 22 for providing light thereunder. In the preferred embodiment, lighting devices 12 having a substantially elongated configuration are used although other lighting device configurations are equally appropriate. (Emphasis added).

Phyle at col. 3, lines 7-11.

The use of the term “at least one” in Phyle implies that multiple lighting devices connected to each rib member are also contemplated. Phyle also discloses lighting devices 12 on each rib member.

Additionally, Morgan (Exhibit 10) and Rushing (Exhibit 11) both disclose multiple discrete lighting elements along each rib of an umbrella. Specifically, Fig. 5 of Morgan shows three bulbs 24 positioned along the rib or frame members 14 of the umbrella 10. Additionally, Fig. 2 of Rushing shows a plurality of lights 14 positioned along each rib 28 of the umbrella. Thus, Claims 49 and 50 also are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of either Morgan or Rushing.

**Claim 51 to 52** – Claims 51-52 are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III for the same reasons as set forth above for Claims 49-50. Claims 51-52 are also not patentable under 35 U.S.C. §112, first and second paragraphs, because the terms “at least partially recessed within the corresponding rib member” and

“fully recessed within the corresponding rib member” are both vague and indefinite and fail to particularly point out and distinctly claim the alleged invention. There is no support in the specification for either of the terms “at least partially recessed within the corresponding rib member” or “fully recessed within the corresponding rib member”. Furthermore, it cannot be determined whether a lighting device mounted on a rib, but fully or partially enclosed in a sheath or outer cover would be considered fully or partially recessed in the corresponding rib member. For example, Phyle shows in Fig. 11 and describes the lighting device 12, at col. 4, lines 32-38, as follows:

The lighting device 12 includes a light wand 104 having a transparent outer sheath 106 and at least one elongated fluorescent filament element 108 located therein. This elongated configuration is particularly well suited for use in conjunction with the umbrella ribs 22 since its elongated arrangement enable the lighting devices 12 to remain secured to the ribs in any umbrella position.

If the terms “at least partially recessed within the corresponding rib member” and “fully recessed within the corresponding rib member” are considered to include structures, such as Phyle, then the claims are invalid as obvious in view of combinations II and/or III; if not, then the claims are invalid under 35 U.S.C. §112, first and second paragraphs.

Additionally, the patent to Walker et al. discloses a plurality of lighting elements partially recessed within the corresponding rib member. Specifically, Walker et al. states at col. 2, lines 21-35 as follows:

Downwardly open elongate channels 30 are secured to the undersides of the ribs 16. Each channel 30 has pressed into it a light sources in the form of a length of rope lighting 32 so that each length of rope lighting 32 is carried by and extends along an associated rib 16. \*\*\*

Rope lighting consists of an extruded length of synthetic plastics material. The synthetic plastics material is flexible and has at intervals therealong sources of light. These sources are connected together by wires which run through the extrusion. When connected to a source of electricity, rope lighting is illuminated throughout its length.

Although Walker et al. does not specifically disclose it, rope lighting is known by those skilled in the art to contain light emitting diodes (“LEDs”) as its source of light. Thus, the LEDs of the rope lighting of Walker et al. are recessed in the channels 30 attached to the ribs 16 of the umbrella. Thus, the elements “at least partially recessed” LEDs (which term includes fully recessed) and “fully recessed” LEDs are disclosed by Walker et al. Therefore, it is submitted that Claims 51 and 52 also are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of Walker et al.

Furthermore, the patent to Lee (U.S. Patent No. 6,499,856) recently disclosed by World Factory, discloses lamps 5 recessed within the channel 41 in the ribs 4 of the umbrella. Therefore, it is submitted that Claims 51 and 52 also are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of Lee.

**Claim 53** – Claim 53 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. As stated above, Phyle (Fig. 11) discloses a lighting device 12 which includes a light wand 104 having a transparent outer sheath 106 and at least one elongated fluorescent filament element 108 located therein. Claim 53 is also unpatentable for the same reasons as stated above for Claims 49 and 52.

Additionally, the transparent extrusion of the rope lighting 32 of Walker et al. which encases the light sources, or LEDs, constitutes a transparent or translucent cover over the

lighting elements. Therefore, it is submitted that Claim 53 also is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of Walker et al.

**Claim 54** – Claim 54 is invalid on the same basis as set forth above for Claim 49. Additionally, the rope lighting of Walker et al. constitutes LEDs which meets the language of Claim 49. Therefore, it is submitted that Claim 54 also is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of Walker et al. Furthermore, Japanese patent application No. 9-168415 (Exhibit 12) discloses on page 7 a plurality of LEDs 7 and 7A (*i.e.*, 7a1-7a8, 7b1-7b8 and 7c1-7c8) disposed along the length of each rib of the umbrella. Therefore, it is submitted that Claim 54 also is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of Japanese patent application No. 9-168415.

**Claim 55** – Claim 55 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 55 is also not patentable under 35 U.S.C. §112, first and second paragraphs, because the term “partially recessed within the rib members” is vague and indefinite and fails to particularly point out and distinctly claim the alleged invention. Furthermore, there is no support in the specification for the term “partially recessed within the rib members”. Additionally, Claim 55 is invalid for the same reasons as Claim 51 set forth above.

Also, the rope lighting 32 of Walker et al. is disclosed as containing the wires that connect the multiple light sources within the extrusion. Specifically, Walker et al. states at col. 2, lines 30-35 as follows:

Rope lighting consists of an extruded length of synthetic plastics material. The synthetic plastics material is flexible and has at intervals therealong sources of light. These sources are connected together by wires which run through the extrusion. When connected to a source of electricity, rope lighting is illuminated throughout its length.

The rope lighting 32 is recessed within the channel 30 of each rib 16. Therefore, it is submitted that Claim 55 also is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of Walker et al.

Furthermore, the patent to Wu discloses at col. 3, lines 24-34 and in Fig. 28 that the positive and negative wires of each tip illuminator 32 are led through the tubes 46, 46a, 46b within the ribs of the umbrella. Therefore, it is submitted that Claim 55 also is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III and further in view of Wu.

**Claim 56** – Claim 56 is invalid on the same basis as set forth above for Claims 15-17 and 20-24 above. In addition, Claim 56 is invalid under 35 U.S.C. §112, first and second paragraphs, as being vague and indefinite, failing to particularly point out and distinctly claim the alleged invention and lacking support in the specification for the term, and lacking an antecedent basis for the term “rechargeable electrical power source.”

**Claims 57-58** – Claims 57-58 are not patentable under 35 U.S.C. §103(a) in view of Combinations I, II and/or III. In addition, Claims 57-58 are invalid under 35 U.S.C. §112, first and second paragraphs, as being vague and indefinite, and failing to particularly point out and distinctly claim the alleged invention and lacking support in the specification for the term “switch disposed in the crank housing for controlling the provision of electrical



power from the rechargeable electrical power system.” The specification only supports switches on the crank housing that control the opening and closing of the canopy portion of the umbrella. It is unclear from the claim for what purpose and to what apparatus the switches are controlling the provision of electrical power. If the switches on the crank housing are intended to control the lighting elements, there is no support in the specification for such a switch.

**Claim 59** – Claim 59 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 59 is invalid on the same basis as set forth above for Claims 45-47 and 57-58. In addition, Claim 59 is broader than the original claims of the ‘713 patent which are prohibited in a reexamination based on a patent that issued more than 2 years ago. The term “a pole portion adapted for use with a supportive base portion” is broader than the terms a “base support portion” and “a pole portion coupled to the base support portion” in the original claims.

**Claims 60-62** – Claims 60-62 are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claims 60-62 are also invalid on the same basis as set forth above for Claims 50-52 and 54-55. Walker et al. and Wu both show conductors disposed within a corresponding rib member. Furthermore, Claims 60-62 are also not patentable under 35 U.S.C. §112, first and second paragraphs, because the terms “conductor disposed within a corresponding rib member” is vague and indefinite and fails to particularly point out and distinctly claim the alleged invention. There is no support in the specification for the term “conductor disposed within a corresponding rib member”. Furthermore, it cannot be determined whether a lighting device mounted on a rib, having conducting wires

disposed therein would be considered a conductor disposed within a corresponding rib member. For example, Phyle shows in Fig. 11 and describes the lighting device 12, at col. 4, lines 32-38, as follows:

The lighting device 12 includes a light wand 104 having a transparent outer sheath 106 and at least one elongated fluorescent filament element 108 located therein. This elongated configuration is particularly well suited for use in conjunction with the umbrella ribs 22 since its elongated arrangement enable the lighting devices 12 to remain secured to the ribs in any umbrella position.

Additionally, Fig. 11 of Phyle shows conductors running longitudinally down the lighting device 12, which would be parallel to the rib member to which the lighting device is attached. If the term “conductor disposed within a corresponding rib member” is considered to include structures including conductors within a structure attached to a rib member, such as Phyle, Walker et al. or Wu, then the claim is invalid as obvious in view of Combinations II and/or III or Combinations II and/or III and further in view of Walker et al. or Wu; if not, then the claims are invalid under 35 U.S.C. §112, first and second paragraphs.

**Claim 63** – Claim 63 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 63 is also invalid on the same basis as set forth above for Claims 45-47.

**Claims 64-66** – Claims 64-66 are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claims 64-66 are also invalid on the same basis as set forth above for Claims 45-48.

**Claim 67** – Claim 67 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 67 is also invalid on the same basis as set forth above for Claim 57. Furthermore, Claim 67 is also not patentable under 35 U.S.C. §112, first and

second paragraphs, because the terms “remote from the housing” is vague and indefinite and fails to particularly point out and distinctly claim the alleged invention. There is no support in the specification for the term “remote from the housing”. Valdner discloses a housing 44 for the rechargeable batteries and a switch 48 for turning the fan on and off. The location of a switch to turn on a light or a fan on an umbrella is a mere matter of design choice and does not rise to the level of patentable subject matter. Claim 67 recites a lighting system and a switch, however, the specification does not support a switch for the lighting system. The claim is vague and does not distinctly claim the alleged invention because it does not recite to what the switch provides electrical power.

**Claim 68** – Claim 68 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 68 is also invalid on the same basis as set forth above for Claim 67. Claim 68 recites a lighting system and a switch, however, the specification does not support a switch for the lighting system. The claim is vague and does not distinctly claim the alleged invention because it does not recite to what the switch provides electrical power.

**Claim 69** – Claim 69 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 69 is also invalid on the same basis as set forth above for Claims 45-48 and 67-68. Claim 69 recites a lighting system and a switch, however, the specification does not support a switch for the lighting system. The claim is vague and does not distinctly claim the alleged invention because it does not recite to what the switch provides electrical power.

**Claims 70-71** – Claims 70-71 are not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claims 70-71 are also invalid on the same basis as set forth above for Claims 45-48 and 50-55.

**Claim 72** – Claim 72 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 72 is also invalid on the same basis as set forth above for Claims 50-55.

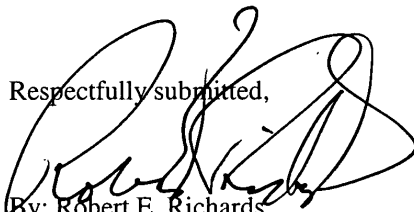
**Claim 73** – Claim 73 is not patentable under 35 U.S.C. §103(a) in view of Combinations I, II and/or III. The only difference between Claim 73 and Claim 1, which has been rejected in the Office Action based on Combination I, is that Claim 73 states that the solar energy system is carried atop the pole portion; whereas, Claim 1 states that the solar energy system is carried by the pole portion above the canopy portion, and Claim 72 omits the provision of Claim 1 which states that the solar energy system is above the canopy portion. Placing the solar energy system atop the pole portion is shown in Valdner, which discloses a pole portion or rod 12 and a solar cell panel 38 mounted at the apex of the canopy 24. Placing the solar energy system atop the pole portion is also shown in Benton. If Claim 73 is not invalid under 35 U.S.C. §103(a) in view of Combinations I, II and/or III or in view of Combinations I, II and/or III and further in view of Benton, then it must be invalid under 35 U.S.C. §112 due to the use of the indefinite term "carried atop the pole portion." Furthermore, by omitting the provision of Claim 1 which states that the solar energy system is above the canopy portion, Claim 73 is broader than the original claims of the '713 patent, which is not permitted in a reexamination application based on claims that issued more than 2 years ago.

**Claim 74** – Claim 74 is not patentable under 35 U.S.C. §103(a) in view of Combinations II and/or III. Claim 74 is also invalid on the same basis as set forth above for Claims 2 and 73.

**Conclusion**

In view of the foregoing, Southern Sales respectfully requests that the rejection of Claims 1, 2, 4 and 5 be maintained, that Claims 3 and 4 be rejected, that Claims 15-44 be declared cancelled and that new Claims 45-74 be declared as not complying with 37 CFR 1.530 and be rejected under 35 U.S.C. §103(a) in view of Combinations I, II and/or III, either alone or in further combination with the prior art references cited herein (*i.e.*, Exhibits 8-12 attached to Southern Sales' "Comments Of Third Party Requester To Patent Owner's Response In *Inter Partes* Reexamination And To Office Action" filed December 15, 2005) and the other bases as set forth above.

Respectfully submitted,

  
By: Robert E. Richards  
Reg. No. 29,105

Attorney for Third Party Requester  
Southern Sales & Marketing Group, Inc.

KILPATRICK STOCKTON LLP  
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Fax: (404) 815-6555  
Our Docket No. 45639-316477

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

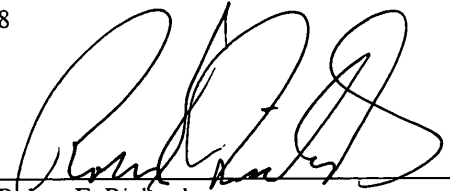
In the Reexamination of: )  
)  
**Gregory G. Kuelbs** )  
)  
Control No. **95/000,104** )  
)  
Patent No.: **6,612,713** )  
) **Examiner: Margaret Wambach**  
Issued: **September 2, 2003** ) **Art Unit: 3992**  
)  
Assignee: **WORLD FACTORY, INC.** )

**CERTIFICATE OF SERVICE**

This is to certify that I have this day served a true and correct copy of the foregoing "Comments Of Third Party Requester To Patent Owner's Response To Notice Re Defective Paper In *Inter Partes* Reexamination And Response To Order Granting *Inter Partes* Reexamination And To Office Action In *Inter Partes* Reexamination" by depositing same in the United States mail, properly addressed with sufficient first class postage affixed thereto to ensure delivery to:

James E. Walton, Esq.  
1169 N. Burleson Boulevard  
Suite 107-328  
Burleson, Texas 76028

This 11th day of January, 2006.

  
Robert E. Richards

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0664MH-40982-REX

In re Reexamination of:

**GREGORY G. KUELBS**

Control No. **95/000,104**

Patent No. **6,612,713**

Issued: **2 SEPTEMBER 2003**

For: **UMBRELLA APPARATUS**

Examiner: **MARGARET WAMBACH**

Art Unit: **3992**

64660 U.S. PTO



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TRANSMITTAL

**MAIL STOP: INTER PARTES REEXAM**

Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

Please file the following documents in the subject reexamination application:

1. This Transmittal with Certificate of Mailing;
2. Information Disclosure Statement, Form PTO/SB/08A; and
3. Our return postcard which we would appreciate you date stamping and returning to us.

<b>CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8(a)</b>	
Date of Deposit:	<u>4/20/06</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail with sufficient postage under 37 C.F.R. §1.8(a) on the date indicated above and is addressed to Mail Stop: Inter Partes Reexam, Central Reexamination Unit, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.	
By:	<u>Jann E. Walts</u>

**Proof of Service:**

Pursuant to 37 C.F.R. § 1.903, a true and correct copy of this Transmittal and the Information Disclosure Statement filed herewith has been served on the third-party requester. Pursuant to 37 C.F.R. § 1.248(a)(4), the undersigned hereby certifies that a true and correct copy of this Transmittal and the Information Disclosure Statement was served on the third-party requester's attorney of record, Robert E. Richards, by First Class Mail with sufficient postage at Kilpatrick Stockton LLP, 1100 Peachtree Street, Suite 2800, Atlanta, Georgia 30309 on 20 April 2006.



**Conclusion:**

No fees are deemed to be necessary; however, the Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayments, to **Deposit Account No. 502806.**

**Please link this application to Customer Nos. 50779 and 38441 so that its status may be checked via the PAIR System.**

Respectfully submitted,

4/20/06  
Date

James E. Walton  
James E. Walton, Registration No. 47,245  
Michael Alford, Registration No. 48,707  
Alan Dawson Lightfoot, Registration No. 57,756  
Daren C. Davis, Registration No. 38,425  
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**CUSTOMER NO. 38441**

**ATTORNEYS AND AGENTS FOR APPLICANT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 0664MH-40982-REX

In re Reexamination of:

**GREGORY G. KUELBS**

Control No. **95/000,104**

Patent No. **6,612,713**

Issued: **2 SEPTEMBER 2003**

For: **UMBRELLA APPARATUS**

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Examiner: **MARGARET WAMBACH**

Art Unit: **3992**

**INFORMATION DISCLOSURE STATEMENT**

**MAIL STOP: INTER PARTES REEXAM**

Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450



Sir:

In accordance with 37 C.F.R. §1.56, the references listed on the attached form PTO/SB/08A (substitute for form PTO-1449) are being brought to the attention of the Examiner for consideration in connection with the reexamination of the subject patent.

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8(a)	
Date of Deposit:	<u>4/20/06</u>
I hereby certify that this paper or fee is being deposited with the United States Postal Service as First Class Mail with sufficient postage under 37 C.F.R. §1.8(a) on the date indicated above and is addressed to Mail Stop: Inter Partes Reexam, Central Reexamination Unit, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.	
By:	<u><i>Jann E. Welts</i></u>

The filing of this Information Disclosure Statement shall not be construed to be a representation that a search has been conducted, nor shall it be construed as an admission that the information cited in the statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

It is respectfully requested that the Examiner return a copy of the attached form PTO/SB/08A with initials or other appropriate marks indicating consideration of the cited materials.

**Proof of Service:**

Pursuant to 37 C.F.R. § 1.903, a true and correct copy of this Information Disclosure Statement has been served on the third-party requester. Pursuant to 37 C.F.R. § 1.248(a)(4), the undersigned hereby certifies that a true and correct copy of this Information Disclosure Statement was served on the third-party requester's attorney of record, Robert E. Richards, by First Class Mail with sufficient postage at Kilpatrick Stockton LLP, 1100 Peachtree Street, Suite 2800, Atlanta, Georgia 30309 on 20 April 2006.

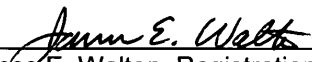
**Conclusion:**

No fees are deemed to be necessary; however, the Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayments, to **Deposit Account No. 502806.**

**Please link this application to Customer Nos. 50779 and 38441 so that its status may be checked via the PAIR System.**

Respectfully submitted,

4/20/06  
Date

  
James E. Walton, Registration No. 47,245  
Michael Alford, Registration No. 48,707  
Alan Dawson Lightfoot, Registration No. 57,756  
Daren C. Davis, Registration No. 38,425  
Brian E. Harris, Registration No. 48,383  
Steven J. Laureanti, Registration No. 50,274

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**CUSTOMER NO. 38441**

**ATTORNEYS AND AGENTS FOR APPLICANT**

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>		Application Number	95/000,104
		Filing Date	
		First Named Inventor	Gregory G. Kuelbs
		Art Unit	3992
		Examiner Name	Margaret Wambach
		Attorney Docket Number	0664MH-40982-REX
Sheet	1	of	1

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AQ	US-2960094	11-15-1960	Small, Samuel N.	
		US-			
		US-			
		US-			
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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

Examiner Signature	Date Considered
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<sup>1</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>2</sup>Applicant's unique citation designation number (optional). <sup>3</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>4</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>5</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>6</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>7</sup>Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

## IFW Reference Manager

Application Number:

### Application Number 95/000,104

Testing 1899694 - Form PTO-1449, 25-APR-2006, Paper Number 042506

Document Number	Date	Inventor Names	Classification
US-2,960,094	11-1960	SMALL SAMUEL N	135/22

#### EAST Search String:

("2960094").PN.

# Litigation Search Report CRU 3999

Reexam Control No. 95/000,104

**TO: Margaret Rubin**  
**Location: CRU**  
**Art Unit: 3992**  
**Date: 11/07/06**  
**Case Serial Number: 95/000,104**

**From: Patricia Volpe**  
**Location: CRU 3999**  
**MDW 7C55**  
**Phone: (571) 272-6825**  
**Patricia.volpe@uspto.gov**

## Search Notes

**Litigation was found involving U.S. Patent Number 6,612,713**

**Status-OPEN 4:05cv373 World Factory Inc v. Southern Sales And Marketing Group Inc**

**Status-OPEN 4:05cv374 v. World Factory Inc v. Bond Manufacturing Co**

### **Sources:**

- 1) I performed a KeyCite Search in Westlaw, which retrieves all history on the patent including any litigation.
- 2) I performed a search on the patent in Lexis CourtLink for any open dockets or closed cases.
- 3) I performed a search in Lexis in the Federal Courts and Administrative Materials databases for any cases found.
- 4) I performed a search in Lexis in the IP Journal and Periodicals database for any articles on the patent.
- 5) I performed a search in Lexis in the news databases for any articles about the patent or any articles about litigation on this patent.

YOT-1003-0471

**KEYCITE**

**CUS PAT 6612713 UMBRELLA APPARATUS, Assignee: World Factory, Inc. (Sep 02, 2003)**

**History**

- => 1 **UMBRELLA APPARATUS**, US PAT 6612713, 2003 WL 22044809 (U.S. PTO Utility Sep 02, 2003) (NO. 10/068424)

**Patent Family**

- 2 **UMBRELLA APPARATUS FOR LAWNS, HAS SOLAR ENERGY SYSTEM CONDUCTIVELY COUPLED TO RECHARGEABLE ELECTRICAL POWER SYSTEM FOR CONVERTING SOLAR ENERGY INTO ELECTRICAL ENERGY AND CHARGER FOR RECHARGING POWER SYSTEM**, DWPL 2003-895364

**Assignments**

- 3 Assignee(s): **WORLD FACTORY, INC. 280 COMMERCE STREET SOUTHLAKE TEXAS 76092**, DATE RECORDED: Feb 07, 2002

**Patent Status Files**

- . Request for Re-Examination, (OG date: Sep 27, 2005)
- . Patent Suit(See LitAlert Entries),
- . Patent Suit(See LitAlert Entries),

**Litigation Alert**

- 7 LitAlert P2005-42-24, (Jun 13, 2005) Action Taken: A complaint was filed  
8 LitAlert P2005-42-26, (Jun 13, 2005) Action Taken: A complaint was filed

**Prior Art**

- C** 9 US PAT 5349975 AIR COOLED UMBRELLA, (U.S. PTO Utility 1994)  
**C** 10 US PAT 5172711 : COMBINATION CANOPY AND FAN, (U.S. PTO Utility 1992)  
**C** 11 US PAT 5126922 ILLUMINATED UMBRELLA OR PARASOL, (U.S. PTO Utility 1992)  
**C** 12 US PAT 5273062 UMBRELLA, (U.S. PTO Utility 1993)  
**C** 13 US PAT 5463536 UMBRELLA WITH A LIGHT SOURCE AND LIGHT REFRACTING MEANS, (U.S. PTO Utility 1995)



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**US District Court Civil Docket**

**U.S. District - Texas Northern  
(Fort Worth)**

**4:05cv373**

**World Factory Inc v. Southern Sales And Marketing Group Inc**

This case was retrieved from the court on Tuesday, November 01, 2005

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<b>Date Filed: 06/13/2005</b>	<b>Class Code: JURY</b>
<b>Assigned To: John McBryde</b>	<b>Closed: no</b>
<b>Referred To:</b>	<b>Statute: 35:145</b>
<b>Nature of suit: Patent (830)</b>	<b>Jury Demand: Plaintiff</b>
<b>Cause: Patent Infringement</b>	<b>Demand Amount: \$0</b>
<b>Lead Docket: None</b>	<b>NOS Description: Patent</b>
<b>Other Docket: None</b>	
<b>Jurisdiction: Federal Question</b>	

**Litigants**

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Plaintiff

**Attorneys**

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Southern Sales And Marketing Group Inc Doing Business as

YOT-1003-0473

Southern Patio  
Defendant

<b>Date</b>	<b>#</b>	<b>Proceeding Text</b>
06/13/2005	2	CERTIFICATE OF INTERESTED PERSONS/DISCLOSURE STATEMENT by World Factory Inc. (mjw, ) (Entered: 06/14/2005)
06/13/2005	3	Summons Issued as to Southern Sales and Marketing Group Inc. (mjw, ) (Entered: 06/14/2005)
06/13/2005	4	Mailing of Patent and Trademark Infringement Notice to Director in Alexandria VA (mjw, ) (Entered: 06/14/2005)
06/13/2005	5	CIVIL COVER SHEET filed by World Factory Inc. (mjw, ) (Entered: 06/15/2005)
06/14/2005	1	COMPLAINT AND JURY DEMAND against Southern Sales and Marketing Group Inc ( Filing fee \$250; Receipt number 53004), filed by World Factory Inc.(mjw, ) (Entered: 06/14/2005)

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YOT-1003-0474

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**US District Court Civil Docket**

**U.S. District - Texas Northern  
(Fort Worth)**

**4:05cv374**

**World Factory Inc v. Bond Manufacturing Co**

This case was retrieved from the court on Tuesday, November 01, 2005

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<b>Date Filed: 06/13/2005</b>	<b>Class Code: JURY, PATENT</b>
<b>Assigned To: John McBryde</b>	<b>Closed: no</b>
<b>Referred To:</b>	<b>Statute: 35:145</b>
<b>Nature of suit: Patent (830)</b>	<b>Jury Demand: Plaintiff</b>
<b>Cause: Patent Infringement</b>	<b>Demand Amount: \$0</b>
<b>Lead Docket: None</b>	<b>NOS Description: Patent</b>
<b>Other Docket: None</b>	
<b>Jurisdiction: Federal Question</b>	

**Litigants**

World Factory Inc  
Plaintiff

**Attorneys**

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Bond Manufacturing Co

YOT-1003-0475

Defendant

<b>Date</b>	<b>#</b>	<b>Proceeding Text</b>
06/13/2005	1	COMPLAINT against Bond Manufacturing Co ( Filing fee \$250; Receipt number 53005), filed by World Factory Inc.(jmb, ) (Entered: 06/14/2005)
06/13/2005	--	DEMAND for Trial by Jury by World Factory Inc. (jmb, )on face of complaint (Entered: 06/14/2005)
06/13/2005	2	CERTIFICATE OF INTERESTED PERSONS/DISCLOSURE STATEMENT by World Factory Inc. (jmb, ) (Entered: 06/14/2005)
06/14/2005	3	Summons Issued as to Bond Manufacturing Co..(jmb, ) (Entered: 06/14/2005)
06/14/2005	4	NOTICE of patent filing mailed to US Patent and Trademark Office(jmb, ) (Entered: 06/14/2005)

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068424 (10) 6612713 September 2, 2003

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

6612713

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September 2, 2003

Umbrella apparatus

**REEXAM-LITIGATE:** August 12, 2005 - Reexamination requested August 12, 2005 by Robert E. Richards, Atlanta, GA, Reexamination No. 95/000,104 (O.G. September 27, 2005) Ex. Gp.: 3992

NOTICE OF LITIGATION

World Factory Inc v. Bond Manufacturing Co, Filed June 13, 2005, D.C. N.D. Texas, Doc. No. 4:05cv374

6/15/2005

NOTICE OF LITIGATION

World Factory Inc v. Southern Sales and Marketing Group Inc, Filed June 13, 2005, D.C. N.D. Texas, Doc. No. 4:05cv373

6/15/2005

**APPL-NO:** 068424 (10)

**FILED-DATE:** February 7, 2002

**GRANTED-DATE:** September 2, 2003

**ASSIGNEE-PRE-ISSUE:** February 7, 2002 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., WORLD FACTORY, INC. 280 COMMERCE STREETSOUTHLAKE, TEXAS, 76092, Reel and Frame Number: 012576/0039

**ASSIGNEE-AT-ISSUE:** World Factory, Inc., Southlake, Texas, United States (US), United States company or corporation (02)

YOT-1003-0477

**CORE TERMS:** umbrella, battery, solar, pole, lighting, electrical, rib, rechargeable, charger, coupled ...

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and	and
or	or
w/N	within N words
not w/N	not within N words
pre /N	precedes N words
w/p	in same paragraph
not w/p	not in same paragraph
w/seg	in same sentence
not w/seg	not in same sentence
w/s	in same section
not w/s	not in same section
and not	and not
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- 1. [AAP Company News](#), January 30, 2001, Tuesday, 931 words, Second Quarter Activities Report, Sydney  
... 4 1.38 CHRC457 **6612713** 311022 -60 270 ...  
... 2 3.73 CHRC459 **6612713** 311102 -60 270 ...
- 2. [AAP Company News](#), January 30, 2001, Tuesday, 930 words, Second Quarter Activities Report, Sydney  
... 4 1.38 CHRC457 **6612713** 311022 -60 270 ...  
... 2 3.73 CHRC459 **6612713** 311102 -60 270 ...
- 3. [AAP NEWSFEED](#), January 30, 2001, Tuesday, Nationwide General News; Finance Wire, 958 words, WGR  
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CONTROL NO.	FILING DATE	PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
95/000104	08/12/2005	6612713	

LAW OFFICES OF JAMES E. WALTON, PLLC  
1169 N. BURLESON BLVD.  
SUITE 107-328  
BURLESON TX 76028

EXAMINER

Margaret Wambach

ART UNIT      PAPER

3992

DATE MAILED:



**INTER PARTES REEXAMINATION  
COMMUNICATION**

BELOW/ATTACHED YOU WILL FIND A COMMUNICATION FROM THE UNITED STATES PATENT AND TRADEMARK OFFICE OFFICIAL(S) IN CHARGE OF THE PRESENT REEXAMINATION PROCEEDING.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the Central Reexamination Unit at the mail, FAX, or hand-carry addresses given at the end of this communication.



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Robert E. Richards  
KILPATRICK STOCKTON, LLP  
1100 Peachtree Street, Suite 2800  
Atlanta, GA 30309

**Transmittal of Communication to Third Party Requester  
*Inter Partes* Reexamination**

REEXAMINATION CONTROL NUMBER 95/000,104.

PATENT NUMBER 6,612,713.

TECHNOLOGY CENTER 3992.

ART UNIT 2875.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

PTOL-2070 (Rev.07-04)

YOT-1003-0485

<b>OFFICE ACTION IN INTER PARTES REEXAMINATION</b>	Control No.	Patent Under Reexamination	
	95/000,104 Examiner Margaret Rubin	6612713 Art Unit 3992	

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address. --

Responsive to the communication(s) filed by:  
Patent Owner on 21 November 2005  
Third Party(ies) on 21 December 2006

**RESPONSE TIMES ARE SET TO EXPIRE AS FOLLOWS:**

*For Patent Owner's Response:*

2 MONTH(S) from the mailing date of this action. 37 CFR 1.945. EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.956.

*For Third Party Requester's Comments on the Patent Owner Response:*

30 DAYS from the date of service of any patent owner's response. 37 CFR 1.947. NO EXTENSIONS OF TIME ARE PERMITTED. 35 U.S.C. 314(b)(2).

**All correspondence** relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

This action is not an Action Closing Prosecution under 37 CFR 1.949, nor is it a Right of Appeal Notice under 37 CFR 1.953.

**PART I. THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

1.  Notice of References Cited by Examiner, PTO-892
2.  Information Disclosure Citation, PTO/SB/08
3.  \_\_\_\_\_

**PART II. SUMMARY OF ACTION:**

- 1a.  Claims 1-14 and 45-74 are subject to reexamination.
- 1b.  Claims \_\_\_\_\_ are not subject to reexamination.
2.  Claims 15-44 have been canceled.
3.  Claims 3,8 and 10-14 are confirmed. [Unamended patent claims]
4.  Claims 52 and 53 are patentable. [Amended or new claims]
5.  Claims 1,2,4-7,9,45-51 and 54-74 are rejected.
6.  Claims 72 are objected to.
7.  The drawings filed on \_\_\_\_\_  are acceptable  are not acceptable.
8.  The drawing correction request filed on \_\_\_\_\_ is:  approved.  disapproved.
9.  Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has:  been received.  not been received.  been filed in Application/Control No 95000104.
10.  Other \_\_\_\_\_

<b>Transmittal of Communication to Third Party Requester Inter Partes Reexamination</b>	<b>Control No.</b>	<b>Patent Under Reexamination</b>	
	95/000,104	6612713	
	<b>Examiner</b>	<b>Art Unit</b>	
	Margaret Rubin	3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

INTER PARTES REEXAMINATION SECOND OFFICE ACTION

I.) Information Submissions

Information Submissions in *Inter Partes* Proceedings are bound by 37 CFR § 1.933 which incorporates 37 CFR § 1.55(a) and (b). Requirements for information disclosure statements are set forth in 37 CFR § 1.55(a) which incorporates 37 CFR § 1.98(a).

Requester's comments of December 21, 2005 and January 13, 2006 do not comply with the requirements of 37 CFR § 1.98(a)(1) insofar as they rely on documents not previously cited and a proper list has not been submitted. Nonetheless, to the extent that the Office was able to identify these documents, they have been separately made of record.

It is also noted that the Requester did not provide a translation or concise explanation of relevance of Japanese Patent Document JP 9-168415 as required by 37 CFR § 1.98(a)(2). Despite that fact, since certain claim features were clearly taught by JP 9-168415, it was applied in prior art rejections.



Application/Control Number: 95/000,104  
Art Unit: 3992

Page 3

## II.) Claim Objections

Claim 72 is objected to because of the following informalities: the indentation of line 17 is inconsistent with the margins set for the other paragraphs within the claim. Appropriate correction is required.

YOT-1003-0489

**III.) Claim Rejections - 35 USC § 314(a)**

Claims 59, 61, 73 and 74 are rejected under 35 U.S.C. 314(a) as enlarging the scope of the claims of the patent being reexamined. The rejection of claims 59 and 73 under 35 U.S.C. 314(a) was proposed by Requester. The rejection of claims 61 and 74 under 35 U.S.C. 314(a) was not proposed by Requester. 35 U.S.C. 314(a) states that "no proposed amended or new claim enlarging the scope of the claims of the patent shall be permitted" in an *inter partes* reexamination proceeding. A claim presented in a reexamination "enlarges the scope" of the patent claims where the claim is broader than the claims of the patent. A claim is broadened if it is broader in any one respect, even though it may be narrower in other respects.

MPEP 2658 states the following criteria for enlargement of the scope of the claims:

A claim presented in a reexamination proceeding enlarges the scope of the claims of the patent being reexamined where the claim is broader than each and every claim of the patent. See MPEP § 1412.03 for guidance as to when the presented claim is considered to be a broadening claim as compared with the claims of the patent, i.e., what is broadening and what is not. If a claim is considered to be a broadening claim for purposes of

reissue, it is likewise considered to be a broadening claim in reexamination.

Accordingly, MPEP 1412.03 is determinative regarding the analysis that must be undertaken in deciding whether a claim in a reexamination proceeding enlarges the scope of patent claims. A test offered therein requires observing whether any amended or newly added claim in a reexamination proceeding includes subject matter not covered by the original patent claims.

A claim which reads on something which the original claims do not is a broadened claim. A claim would be considered a broadening claim if the patent owner would be able to sue any party for infringement who previously could not have been sued for infringement.

Applying this test to the amendatory matter introduced by Patent Owner on December 19, 2005, claims 59, 61, 73 and 74 are seen to enlarge the scope of the original claims of the patent.

Turning first to claim 59, although its scope is most similar to original independent claim 2, it nonetheless lacks the limitation of a pole portion "coupled to the base support portion". Insofar as claim 59 lacks this limitation, it enlarges the scope of claim 2. Further all of the other original independent claims also require a pole portion "coupled to the base support portion" in addition to other features lacking from claim 59. Thus, claim 59, at least with respect to

the limitation of a pole portion "coupled to the base support portion" is a broadening claim.

Similarly, although the scope of claim 61<sup>1</sup> is most similar to original independent claim 2, it nonetheless lacks the limitation of a solar energy system "carried by the pole portion above the canopy portion".

Insofar as claim 61 lacks this limitation, it enlarges the scope of claim 2. Further all of the other original independent claims also require a solar energy system carried by the pole portion above the canopy portion.

Turning next to claim 73, although its scope is most similar to original independent claim 1, it nonetheless lacks the limitation of a solar energy system "carried by the pole portion above the canopy portion". Claim 73 instead requires that the solar energy system is carried "atop" the pole portion which covers a different arrangement. Further all of the other original independent claims, in addition to claim 1, also require a solar energy system "carried by the pole portion above the canopy portion" along with other features lacking from claim

---

<sup>1</sup> It is noted that claim 61 recites a solar energy system "for" collecting solar energy and converting the solar energy into electrical energy while all the original independent claims recite a solar energy system "adapted to" collect solar energy and convert the solar energy into electrical energy; however, claim 61 is not seen as broadening the scope of the original claims for that reason. In either case, the language in question covers a solar

73. Thus, claim 73, at least with respect to the limitation of a solar energy system "carried by the pole portion above the canopy portion" is a broadening claim.

In like manner, claim 74 is most similar in scope to original independent claim 2 but it nonetheless lacks the limitation of a solar energy system "carried by the pole portion above the canopy portion". Claim 74 instead requires that the solar energy system is carried "atop" the pole portion which covers a different arrangement. Further all of the other original independent claims, in addition to claim 2, also require a solar energy system "carried by the pole portion above the canopy portion" along with other features lacking from claim 74. Thus, claim 74, at least with respect to the limitation of a solar energy system "carried by the pole portion above the canopy portion" is a broadening claim.

---

system that is structurally capable of collecting solar energy and converting it into electrical energy - no more or no less.

**IV.) Claim Rejections - 35 USC § 112**

A.) First Paragraph

The following is a quotation of the first paragraph of 35

U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 45-48, 51, 55-71 and 73-74 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The grounds of rejection of claims 45-48, 51, 55-71 and 73-74 under 35 U.S.C. 112, first paragraph was proposed by Requester.

YOT-1003-0494

The base patent disclosure does not support a common housing including the rechargeable electrical power system and the solar energy system as recited in independent claims 45-48, 56, 59, 61 and 63-70. While it is true that there is support for a module that includes a rechargeable electrical power system and solar energy system as component parts, there is no disclosure of placing both parts in a housing. Insofar as it appears as if Patent Owner was attempting to draw a correspondence with the power unit disclosed by the base patent, in the interest of resolving issues herein that might foreseeably arise in the next Office action if such a substitution were made, the claims have been evaluated under that assumption.

Each of independent claims 45-48 requires "an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet". Such an electrical charging system is disclosed in the specification and depicted in Figure 1 as "external power system charger 51", in Figure 3C as "external power system charger and transformer 251" and in Figure 5A as "external power system charger 610". Figures 1, 3C and 5A appear to be the only Figures that include this arrangement. More particularly, Figs. 2A-2C rely on battery pack

155a. For the embodiments of Figs 4, and 6-9 the specification states that a "rechargeable power source, such as power sources 50, 150 and 250" may be used (column 9, lines 61 and 62, column 12, lines 51 and 52, column 13, lines 26-28, column 13, lines 50-52, and column 14, lines 21 and 22) and no mention of an electrical charging system is made. Moreover, power sources 50 and 250 do not include an electrical charging system as chargers 51 and 251 are described as being "electrically coupled" to power system 50 (column 4, lines 33-36) and power system 250 (column 8, lines 32-35), respectively, so they are not contained within these power systems. Power system 150 relies on a battery pack of "the type of rechargeable battery that is used with most modern cordless power drills" (column 6, lines 16-18) instead of an electrical charging system. For the embodiments of Figures 10 and 11, there is no mention of an electrical charging system and, in fact, col. 14, lines 46-49 state that the system "does not require any household power for operation, or charging".

Each of independent claims 45-48 also requires that the rechargeable electrical power system and the solar energy system are disposed in a common housing. As discussed above, the disclosure does not support a common housing. However, assuming that Patent Owner intended to reference a power unit as disclosed on columns 11 and 12 of the base patent, the only



embodiments that include that feature are depicted in Figures 6-9.

Thus, a problem emerges when one traces the elements recited in claims 45-48 back to the disclosure. Namely, each of claims 45-48 recite one feature that is peculiar to the embodiments of Figures 1, 3C and 5A side-by-side with another feature that is peculiar to the embodiments of Figures 6-9. As a point of interest, the power unit of Figures 6-9 is placed on top of the canopy far away from an easily accessible outlet and is intended to be "self-contained" such that the umbrella systems "do not include electrical systems" (col. 12, lines 16-19). It is also noteworthy that Fig. 6 is specifically described as "entirely independent of any household electrical system (col. 12, lines 49-51.)

Thus, the base patent does not disclose a single embodiment that includes "an electrical charging system for recharging the rechargeable electrical power system, the electrical charging system being adapted to receive power from an AC power outlet", and a rechargeable electrical power system and solar energy system disposed in a power unit as recited in new claims 45-48.

Furthermore, although claims 48 and 66 do not exclude an arrangement where the power unit is completely above the canopy portion, they also encompass a recessed arrangement. Insofar as

the base patent specification does not support a recessed power unit, claims 48 and 66 are rejected for that reason as well.

In like manner, although claims 51, 55, 60 and 62 do not exclude an arrangement where each lighting element or wires coupling the lighting elements are fully recessed within rib members, they also encompass a partially recessed arrangement. Insofar as the base patent specification does not support partially recessed lighting elements or partially recessed wires, claims 51, 55, 60 and 62 are rejected.

With regard to claims 56 and 70, the "lighting system carried by the canopy portion" and the "plurality of lighting elements carried by the rib members" are claimed as distinct elements but the base patent discloses that the plurality of lighting elements are constituent to the lighting system.

With regard to claims 57-59 and 67-69 there is a lack of support in the specification for a switch for controlling the provision of electrical power from the rechargeable electrical power system. The specification only states that switch 247 is "for controlling operation of motor 249" (col. 8, lines 18 and 19) and expanding and retracting umbrella portion 213 (col. 8, lines 24 and 25.) It is noted that switches commonly operate by controlling the provision of electrical power but other

alternatives are possible and the base patent is not specific as to this point.

There is also lack of support for an embodiment such as recited in claim 59 which covers an arrangement where the pole portion is not coupled to the base support portion. While it is noted that column 3, lines 40-43 discloses that the invention could include "no base member whatsoever", nonetheless, when a base member is present, it is always disclosed as coupled to the pole member.

With regard to claims 61 and 70, as discussed above, only disclosed embodiments depicted in Figures 6-9 include a power unit for the rechargeable electrical power system and the solar energy system. Moreover, only Figures 4A-C depict recessed lighting elements within a rib member as recited in claims 61 and 70. Insofar as the base patent disclosure does not include a single embodiment including both features, Patent Owner has presented amendatory matter that is not supported by the base patent.

Further, with regard to claim 61, although it does not exclude an arrangement where the solar energy system is carried by the pole portion, it also encompasses an arrangement where the solar energy system is not carried by the pole portion. Insofar as the base patent specification does not support an

arrangement where the solar energy system is not carried by the pole portion, claim 61 is rejected.

Similarly, with regard to claim 62, Patent Owner is improperly blending separate embodiments to claim subject matter that was not previously disclosed as present in a single embodiment. More particularly, claim 62 requires at least partially recessed light emitting diodes while the base patent disclosure only provides for recessed cold cathode tubes.

Insofar as claim 71 comes freighted with the limitations of the independent claim from which it stems, it is rejected for the same reasons discussed above pertaining to claim 70.

With regard to claims 73 and 74 although they do not exclude an arrangement where the solar energy system is carried by the pole portion above the canopy portion, they also encompass an arrangement where the solar energy system is beneath the canopy portion. Insofar as the base patent specification does not support an arrangement where the solar energy system is beneath the canopy portion, claims 73 and 74 are rejected.

A.) Second Paragraph

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The rejection of claim 56 under 35 U.S.C. 112, second paragraph is proposed by Requester.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 56 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A clear antecedent basis is not present for "the rechargeable electrical power source" in claim 56.

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**V.) The References**

Rejections of the base patent incorporating the following references are applied or addressed in this Office action:

- 1.) U.S. Patent No. 5,911,493 to Walker et al. (hereafter "Walker");
- 2.) PCT Patent Document WO 93/00840 (hereafter "WO 93/00840");
- 3.) U.S. Patent No. 5,349,975 to Valdner;
- 4.) U.S. Patent No. 6,126,293 to Wu;
- 5.) U.S. Patent No. 5,584,564 to Phyle;
- 6.) U.S. Patent No. 6,439,249 to Pan et al (hereafter "Pan");
- 7.) U.S. Patent No. 5,611,614 to Morgan;
- 8.) U.S. Patent No. 5,053,931 to Rushing;
- 9.) U.S. Patent No. 6,499,856 to Lee (hereafter "Lee '856");
- 10.) Japanese Patent Document JP 9-168415 (hereafter "JP 9-168415");
- 11.) U.S. Patent No. 6,341,873 to Yang;
- 12.) U.S. Patent No. 6,270,230 to Mai;
- 13.) U.S. Patent No. 5,126,922 to Andreasen;
- 14.) U.S. Patent No. 5,463,536 to Chou;

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- 15.) U.S. Patent No. 2,960,094 to Small;
- 16.) U.S. Patent No. 5,664,874 to Winterer;
- 17.) U.S. Patent No. 6,299,325 to Cathel;
- 18.) U.S. Patent Application Publication No. 2002/0078985 to  
Farr;
- 19.) U.S. Patent No. 6,666,224 to Lee (hereafter "Lee '224");
- 20.) U.S. Patent No. 6,017,188 to Benton;
- 21.) U.S. Patent Application Publication No. 2005/0072451 to  
Vivian;
- 22.) U.S. Patent No. 6,298,866 to Molnar;
- 23.) U.S. Patent No. 6,182,917 to Lai; and
- 24.) U.S. Patent No. 6,058,951 to Wilson.

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**VI.) Claim Rejections - 35 USC § 103**

This section includes the following rejections:

I.) Claim 1 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Valdner.

The prior rejection of claim 1 is maintained and the rejection of claim 73 is a new grounds of rejection proposed by Requester.

II.) Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Phyle.

The prior rejection of claims 2 and 5 is maintained.

III.) Claims 2, 5 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Valdner.

The prior rejection of claims 2 and 5 is maintained and the rejection of claim 74 is a new grounds of rejection proposed by Requester.

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IV.) Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Pan or Wu or JP 9-168415 or Mai or Yang.

The prior rejection of claims 2 and 4 in view of WO 93/00840 and Pan is maintained. The remaining rejections of group IV were not proposed by Requester.

V.) Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Valdner and Wu or Pan or JP 9-168415 or Yang or Mai.

The rejection of claim 4 in view of Phyle, Valdner and Wu is newly proposed by Requester. The remaining rejections of group IV were not proposed by Requester.

VI.) Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Small

The rejection of claims 6 and 7 in view of Phyle and Small was not proposed by Requester.

VII.) Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Farr.

The rejection of claim 9 in view of Phyle and Farr was not proposed by Requester.

VIII.) Claims 49, 50 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Morgan or Rushing or Pan or JP 9-168415 or Mai.

Claims 51 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Lee '856.

Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Pan or JP 9-168415 or Mai.

The grounds of rejection of claims 49 and 50 as rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Morgan or Rushing are newly proposed by Requester. The remaining rejections of group VIII were not proposed by Requester.

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IX.) Claims 49, 50 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Valdner, and Morgan or Rushing or Pan or JP 9-168415 or Mai.

Claims 51 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Valdner, and Lee '856.

Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Valdner, and Pan or JP 9-168415 or Mai.

The grounds of rejection of claims 49 and 50 as rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle, Valdner and Morgan or Rushing are newly proposed by Requester. The remaining rejections of group IX were not proposed by Requester.

X.) Claims 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Small and Valdner.

The above rejection of claims 57 and 58 was not proposed by Requester.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

I.) WO 93/00840 and Valdner

Claims 1 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Valdner.

Referring to Figure 1 of WO 93/00840, a patio umbrella apparatus (1) comprising:

- a base support portion (4);
- a pole portion (9) coupled to the base support portion;
- a canopy portion (8) coupled to the pole portion;
- a rechargeable electrical power system for providing electrical power to the umbrella apparatus (rechargeable batteries 3);
- a solar energy system (2) carried by the pole portion above the canopy portion (2 covers at least part of the top of the canopy (8) thus it is above it and, given that it is carried by

the canopy, it is also carried by the pole portion (9) which carries the canopy), the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system (by electrical wires 22), such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system (page 2, line 10 of the translation provided by requester); and

an electrical charging system being adapted to receive power from a power outlet (power cord 14).

With regard to the limitation of claims 1 and 73 that the canopy portion is "hingedly" coupled to the pole portion, it is noted that a hinge at the apex of umbrella apparatus (1) is not expressly shown in the Figures (although Figure 2 does show some sort of wire or circular member threading through two openings under the umbrella cap) nor expressly identified in the disclosure of WO 93/00840. Nevertheless, it can be shown that WO 93/00840 does operate in the manner recited in claims 1 and 73 and, thus, meets these limitations based on the principle of inherency:

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"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)

In the instant case, a full reading of the disclosed form and function of WO 93/00840 shows that recitation of a canopy portion hingedly coupled to a pole portion is implicitly taught. That is to say, the movement of WO 93/00840's components described in its disclosure are necessarily arrived upon through the hinged coupling described in claims 1 and 73. More particularly, WO 93/00840 discloses that the canopy (8) has associated mechanisms for opening it (page 1, line 6 of the translation provided by the requester.) WO 93/00840 further discloses that the fabric of which canopy 8 is composed (page 2, lines 4 and 5) is attached to stays 15 (page 2, line 9). Stay 15 includes short and long sections. The short section of 15 (labeled in Figure 1) is hinged to a longer section at a midpoint. Although the longer section is not labeled in the Figures, it is implicitly referenced as "15" in claim 3 by the process of elimination. To wit, no other element holds valence (23) and is attached to supports (24.) Even the hinge connecting the two sections of 15 would serve to "hingedly" couple the canopy portion to the pole portion, but, beyond this

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point, by virtue of the placement of stay 15 against the pole 19, one end of the shorter section of 15 must pivot on the longer section of 15 while its other end slides down the pole. Such movement necessitates a hinge under the cap at the top of the pole. Additional evidence that umbrella apparatus (1) opens and closes conventionally (via a hinge at its apex) is provided by the disclosure of "a pin 18 for locking the hub 20 housed in a traverse guide 21" (page 2, lines 17 and 18.) Here again we see that hub 20 slides down guide 21 unless locked by pin 18 in the manner of an umbrella closing "hingedly" at a coupling of a canopy portion and a central shaft.

What WO 93/00840 fails to show is a solar energy system carried atop the pole portion as recited in claim 73 only and an electrical charging system for recharging the rechargeable electrical power system with power from an AC power outlet as recited in both claims 1 and 73. Further, although it is most likely that power cord 14 of WO 93/00840 does receive AC power, this point cannot be determined with absolute certainty. These differences are taught by Valdner.

More particularly, Figures 1-8 of Valdner teach an umbrella apparatus (10) including a solar energy system carried atop the pole portion and an electrical charging system for recharging a rechargeable electrical power system (column 2, lines 31-44)

with power from an AC power outlet (an "electric house wall socket" (column 2, line 41) receives AC power).

To produce the structure recited in claims 1 and 73, WO 93/00840 must be altered to incorporate the portion of Valdner's electrical charging system which permits a rechargeable battery to be recharged from either a solar energy system or an AC power outlet and WO 93/00840 must be altered to position its solar energy system atop the pole portion. The power cord of WO 93/00840 could be retained if it was compatible with an AC power outlet or else it would be replaced by a cord possessing such compatibility.

Motivation for the first alteration is provided by the increased reliability implicit in having potential access to an alternate source of power on days when the potential of the solar energy system to provide all necessary power is strained or exceeded. Further, it is noteworthy that Valdner discloses that such alternate AC/solar recharging systems for batteries are "well known in the art" (column 2, line 42.) Motivation for the second alteration is provided by the fact that a location at the apex of an upright outdoor umbrella permits a solar cell a general location where sunlight is most likely to be provided during at least a portion of the day despite the latitude of the location, topographical features and time of year.



II.) WO 93/00840 and Phyle

Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Phyle.

Referring to Figure 1 of WO 93/00840, an umbrella apparatus (1) comprising:

- a base support portion (4);
- a pole portion (9) coupled to the base support portion;
- a canopy portion (8) coupled to the pole portion;
- a rechargeable electrical power system for providing electrical power to the umbrella apparatus (rechargeable batteries 3); and
- a solar energy system (2) carried by the pole portion above the canopy portion (2 covers at least part of the top of the canopy (8) thus it is above it and, given that it is carried by the canopy, it is also carried by the pole portion (9) which carries the canopy), the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system (by electrical wires 22), such that the solar energy collected and converted into electrical energy recharges the rechargeable

electrical power system (page 2, line 10 of the translation provided by requester.)

With regard to the limitation of claim 2 that the canopy portion is "hingedly" coupled to the pole portion, it is noted that a hinge at the apex of umbrella apparatus (1) is not expressly shown in the Figures (although Figure 2 does show some sort of wire or circular member threading through two openings under the umbrella cap) nor expressly identified in the disclosure of WO 93/00840. Nevertheless, it can be shown that WO 93/00840 does operate in the manner recited in claims 2 and 74 and, thus, meets these limitations based on the principle of inherency:

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)

In the instant case, a full reading of the disclosed form and function of WO 93/00840 shows that recitation of a canopy portion hingedly coupled to a pole portion is implicitly taught. That is to say, the movement of WO 93/00840's components described in its disclosure are necessarily arrived upon through the hinged coupling described in claim 2. More particularly, WO

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93/00840 discloses that the canopy (8) has associated mechanisms for opening it (page 1, line 6 of the translation provided by the requester.) WO 93/00840 further discloses that the fabric of which canopy 8 is composed (page 2, lines 4 and 5) is attached to stays 15 (page 2, line 9). Stay 15 includes short and long sections. The short section of 15 (labeled in Figure 1) is hinged to a longer section at a midpoint. Although the longer section is not labeled in the Figures, it is implicitly referenced as "15" in claim 3 by the process of elimination. To wit, no other element holds valence (23) and is attached supports (24.) Even the hinge connecting the two sections of 15 would serve to "hingedly" couple the canopy portion to the pole portion, but, beyond this point, by virtue of the placement of stay 15 against the pole, one end of the shorter section of 15 must pivot on the longer section of 15 while its other end slides down the pole. Such movement necessitates a hinge under the cap at the top of the pole. Additional evidence that umbrella apparatus (1) opens and closes conventionally (via a hinge at its apex) is provided by the disclosure of "a pin 18 for locking the hub 20 housed in a traverse guide 21" (page 2, lines 17 and 18.) Here again we see that hub 20 slides down guide 21 unless locked by pin 18 in the manner of an umbrella

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closing "hingedly" at a coupling of a canopy portion and a central shaft.

What WO 93/00840 fails to show is a lighting system carried by the canopy portion and comprising a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power system. These differences are obvious in light of the teachings of Phyle.

Turning to Figures 1 and 4 of Phyle, a lighting system (the system of lighting devices 12) carried by the canopy portion (lighting devices 12 are carried by ribs 22 which form a portion of a canopy (2) as the term is used within the Kuelbs disclosure) and comprising a plurality of fluorescent light elements carried by the rib members (lighting devices 12 are shown as being carried by rib members in Figure 1 and disclosed as being fluorescent light elements in column 4, lines 32-38), the lighting system being conductively coupled to and powered by an electrical power system (within housing 10).

To produce the structure recited in claims 2 and 5, WO 93/00840 must be altered to substitute the lighting system of Phyle (12) for its lighting system (12 and 25). This could be accomplished by attaching the wiring derived from rechargeable batteries 3 of WO 93/00840 to at least one fluorescent lighting

device of Phyle secured to a rib of the WO 93/00840 canopy portion.

Motivation for such a substitution is provided by the fact that much of the light provided by element 12 of WO 93/00840 would be directed away from a user because his or her head would be positioned below it (in a single plane, from Figure 1 it appears as if roughly only 45 degrees of a 180 degree range would be directed immediately toward the user.) Likewise, element 25 would similarly direct light away from a user who would be positioned to the side if the canopy base was attached to a table or diagonally above if the canopy base was placed at ground level in which case radiated light would originate at the level of the user's feet. In contrast Phyle's overhead light system directs less light at the canopy and provides for having many overhead elements. Substituting Phyle's lighting system for the lighting system taught by WO 93/00840 would provide more direct overhead lighting.

### III.) Phyle and Valdner

Claims 2, 5 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Valdner.

Referring to Figures 1 and 2 of Phyle, an umbrella apparatus (1) comprising:

a base support portion (the patio table which does not carry a reference number);

a pole portion (20) coupled to the base support portion;

a canopy portion (2) hingedly coupled to the pole portion (column 2, lines 58-67); and

a lighting system (12) carried by the canopy portion (2), the lighting system being conductively coupled to and powered by an electrical power system (batteries 60) and having a plurality of rib members (22) coupled to the canopy portion (2), and a plurality of fluorescent light elements (108 as described on column 4, lines 32-38) carried by the rib members.

What Phyle fails to show is a rechargeable electrical power system and a solar energy system integrated with lighting system 12 and a solar energy system carried atop the pole portion as recited in claim 74 only. These differences are obvious in light of the teachings of Valdner.

Figures 1 and 8 of Valdner disclose a rechargeable electrical power system (Figure 8) for providing electrical power to the umbrella apparatus; and

a solar energy system (38) carried by the pole portion (12), atop the pole portion and above the canopy portion (24,)

the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system (column 2; lines 37-43.)

The umbrella apparatus of Phyle, if modified to substitute the rechargeable electrical power system and a solar energy system of Valdner for electrical power system (60,) including the addition of all necessary wiring to connect elements, would teach all the limitations of claims 2, 5 and 74.

One would be motivated to make such alterations to Phyle for the convenience of not having to change dry cell batteries when their power is exhausted and to make use of the unlimited and free natural resource of sunlight rather than paying for power off the grid.

IV.)WO 93/00840 and Pan or Wu or JP 9-168415 or Mai or Yang

Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Pan or Wu or JP 9-168415 or Mai or Yang.

Referring to Figure 1 of WO 93/00840, an umbrella apparatus

(1) comprising:

a base support portion (4);

a pole portion (9) coupled to the base support portion;

a canopy portion (8) coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus (rechargeable batteries 3); and

a solar energy system (2) carried by the pole portion above the canopy portion (2 covers at least part of the top of the canopy (8) thus it is above it and, given that it is carried by the canopy, it is also carried by the pole portion (9) which carries the canopy), the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system (by electrical wires 22), such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system (page 2, line 10 of the translation provided by Requester.)

With regard to the limitation of claim 2 that the canopy portion is "hingedly" coupled to the pole portion, it is noted that a hinge at the apex of umbrella apparatus (1) is not



expressly shown in the Figures (although Figure 2 does show some sort of wire or circular member threading through two openings under the umbrella cap) nor expressly identified in the disclosure of WO 93/00840. Nevertheless, it can be shown that WO 93/00840 does operate in the manner recited in claim 2 and, thus, meets these limitations based on the principle of inherency:

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)

In the instant case, a full reading of the disclosed form and function of WO 93/00840 shows that recitation of a canopy portion hingedly coupled to a pole portion is implicitly taught. That is to say, the movement of WO 93/00840's components described in its disclosure is necessarily arrived upon through the hinged coupling described in claim 2. More particularly, WO 93/00840 discloses that the canopy (8) has associated mechanisms for opening it (page 1, line 6 of the translation provided by the requester.) WO 93/00840 further discloses that the fabric of which canopy 8 is composed (page 2, lines 4 and 5) is attached to stays 15 (page 2, line 9). Stay 15 includes short

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and long sections. The short section of 15 (labeled in Figure 1) is hinged to a longer section at a midpoint. Although the longer section is not labeled in the Figures, it is implicitly referenced as "15" in claim 3 by the process of elimination. To wit, no other element holds valence (23) and is attached supports (24.) Even the hinge connecting the two sections of 15 would serve to "hingedly" couple the canopy portion to the pole portion, but, beyond this point, by virtue of the placement of stay 15 against the pole, one end of the shorter section of 15 must pivot on the longer section of 15 while its other end slides down the pole. Such movement necessitates a hinge under the cap at the top of the pole. Additional evidence that umbrella apparatus (1) opens and closes conventionally (via a hinge at its apex) is provided by the disclosure of "a pin 18 for locking the hub 20 housed in a traverse guide 21" (page 2, lines 17 and 18.) Here again we see that hub 20 slides down guide 21 unless locked by pin 18 in the manner of an umbrella closing "hingedly" at a coupling of a canopy portion and a central shaft.

What WO 93/00840 fails to show is a lighting system carried by the canopy portion and comprising a plurality of light emitting diode elements carried by the rib members, each light emitting diode elements being conductively coupled to and

powered by the rechargeable electrical power system. These differences are obvious in light of the teachings of Pan or Wu or JP 9-168415 or Yang or Mai.

Turning to Figure 1 of Pan, a lighting system (the system of lighting devices 5) is taught carried by the canopy portion (lighting devices 5 are carried by ribs 3 which form a portion of a canopy which is not depicted but the fabric portion is mentioned on column 1, line 59) and comprising a plurality of light emitting diode elements (column 3, line 3) carried by the rib members (lighting devices 5 are shown as being carried by rib members in Figure 1), the lighting system being conductively coupled to and powered by an electrical power system (switchable power supply 11).

Figure 1 of Wu teaches a lighting system (lights 32) carried by the canopy portion (lights 32 are carried by ribs which form a portion of a canopy) and comprising a plurality of light emitting diode elements (throughout the text, reference numbers beginning with 32 are identified as LEDs) carried by the rib members (shown in Figure 1), the lighting system being conductively coupled to and powered by an electrical power system (batteries are mentioned in column 3, lines 44-46).

Figure 2a of JP 9-168415 teaches a lighting system (lights 7) carried by the canopy portion (lights 7 are carried by ribs

which form a portion of a canopy) and comprising a plurality of light emitting diode elements (throughout the text, reference numbers beginning with 7 are identified as LEDs) carried by the rib members (shown in Figure 2a), the lighting system being conductively coupled to and powered by an electrical power system (batteries are shown in Figure 4).

Figures 1 and 13 of Yang teaches a lighting system (Figure 13 of Yang shows LED 42 attached to the tip of a rib 16) carried by the canopy portion (LEDs 42 are carried by the ribs which form part of the canopy portion) and comprising a plurality of light emitting diodes, the lighting system being conductively coupled to and charged by an electrical power system (battery 52).

Figure 6 of Mai teaches a lighting system carried by the canopy portion (LEDs 83 are carried by the ribs which form part of the canopy portion) and comprising a plurality of light emitting diodes, the lighting system being conductively coupled to and charged by an electrical power system (battery 82). It is noteworthy that, although LEDs are mounted on top of the umbrella ribs 20 in the Figure 6, Mai discloses that gores 30 may be formed of translucent material and that transparent strips 84 may be installed on the underside of the umbrella

(col. 4, lines 30-39), thus, illuminating the area beneath the dome.

To produce the structure recited in claims 2 and 4, WO 93/00840 must be altered to substitute the lighting system of Pan (the system of lighting devices 5) or Wu (LEDs 32) or JP 9-168415 (elements 7) or Yang (LEDs 42) or Mai (LEDs 83) for its lighting system (12 and 25). This could be accomplished by attaching the wiring derived from rechargeable batteries 3 of WO 93/00840 to the wiring bringing power to lighting devices 5 or LEDs 32 or LEDs 7 or LEDs 42 or LEDs 83 once they are secured to the ribs of the WO 93/00840 canopy portion.

Motivation for such a substitution is provided by the fact that much of the light provided by element 12 of WO 93/00840 would be directed away from user because his or her head would be positioned below it (in a single plane, from Figure 1 it appears as if roughly only 45 degrees of a 180 degree range would be directed immediately toward the user.) Likewise, element 25 would similarly direct light away from a user who would be positioned to the side if the canopy base was attached to a table or diagonally above if the canopy base was placed at ground level in which case radiated light would originate at the level of the user's feet. In contrast the overhead light system of either Pan or Wu or JP 9-168415 or Yang or Mai directs less

light at the canopy and provides for having many overhead elements. Substituting the lighting system of Pan or Wu or JP 9-168415 or Yang or Mai for the lighting system taught by WO 93/00840 would provide more direct overhead lighting.

V.) Phyle and Valdner and Wu or Pan or JP 9-168415 or Yang or Mai.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Valdner and Wu or Pan or JP 9-168415 or Yang or Mai.

The combination of Phyle and Valdner proposed above with respect to the rejection of claim 2 is incorporated herein by reference. What is lacking from that combination is a teaching of a plurality of light emitting diodes carried by the rib members, each light emitting diode elements being conductively coupled to and powered by the rechargeable electrical power source.

To produce the structure recited in claim 4, the combination of Phyle and Valdner must be altered to substitute the lighting system of Pan (the system of lighting devices 5) or Wu (LEDs 32) or JP 9-168415 (LEDs 7) or Yang (LEDs 42) or Mai

(LEDs 83) for lighting system (12). This could be accomplished by attaching the wiring derived from the rechargeable electrical power system of Valdner to lighting devices 5 or LEDs 32 or LEDs 7 or LEDs 42 or LEDs 83.

Motivation for this alteration stems from the fact that LEDs can be used with a low voltage power supply and thus are ideal for battery operation.

VI.) Phyle and Small

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Small.

Referring to Figures 1 and 2 of Phyle, an umbrella apparatus (1) comprising:

a base support portion (the patio table which does not carry a reference number);

a pole portion (20) coupled to the base support portion;

and

a canopy portion (2) hingedly coupled to the pole portion (column 2, lines 58-67.

What Phyle fails to teach is a rechargeable power system, a solar energy system and an electromechanical opening and closing system.

These limitations are taught by Small.

Referring to Figures 1-3 of Small, an umbrella apparatus is taught comprising:

a rechargeable electrical power system for providing electrical power to the umbrella apparatus (35);

a solar energy system (34) carried by the pole portion above the canopy portion (Fig. 1), the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system(see column 2, lines 53-72);

and an electromechanical opening and closing system for opening and closing the canopy portion, the electromechanical opening and closing system being conductively coupled to and powered by the rechargeable electrical power system (shown in Figs, 1-6), the electromechanical opening and closing system comprising;

an electric motor carried by the pole portion (29);



a control system for controlling the electric motor (shown in Fig. 3 );

a gear system coupled to the electric motor (21);

a cable and pulley system coupled to the gear system and the canopy portion (cable 15 and pulley 14;

wherein the opening and closing of the canopy portion is achieved by the electric motor in response to selective operation of the control system (col. 2, lines 42-52).

To achieve the structure recited in claims 6 and 7, Phyle must be altered to augment its structure with the rechargeable electrical power system, solar energy system and electromechanical opening and closing system of Small.

Motivation for such a substitution is provided by the fact that less exertion is required on the part of a user when an electromechanical systems assists in the opening and closing of the umbrella and the advantage provided by solar systems which recharge batteries without the need for the involvement of a human operator.

VII.) Phyle and Farr

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Farr.

Referring to Figures 1 and 2 of Phyle, an umbrella apparatus (1) comprising:

a base support portion (the patio table which does not carry a reference number);

a pole portion (20) coupled to the base support portion;

and

a canopy portion (2) hingedly coupled to the pole portion (column 2, lines 58-67.

What Phyle fails to teach is a rechargeable power system, a solar energy system and a cooling system.

These limitations are taught by Farr.

Referring to Figures 1-6 of Farr, an umbrella apparatus is taught comprising:

a rechargeable electrical power system for providing electrical power to the umbrella apparatus (19);

a solar energy system (28) carried by the pole portion above the canopy portion (Fig. 1), the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power

system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system(see paragraph 0034);

and a cooling system carried by the canopy portion the cooling system being conductively coupled to and powered by the rechargeable electrical power system (shown in Figs, 1-6), the cooling system comprising;

a fluid reservoir operably associated with the umbrella apparatus (20);

at least one mist nozzle coupled to the canopy portion, each mist nozzle being in fluid communication with the fluid (31);

a conduit creating fluid communication between the fluid reservoir and each mist nozzle (29); and

a pump for pumping the fluid from the reservoir through each mist nozzle (23).

To produce the structure recited in claim 9, Phyle must be altered to augment its structure with the rechargeable electrical power system, solar energy system and cooling system of Farr. Motivation for such a substitution is provided by the fact solar systems recharge batteries without the need for the involvement of a human operator and the advantages of a cooling

mist for "soothing and cooling" are cited by Farr in paragraph 0020.

VIII.)

- A.) WO 93/00840, Morgan, Rushing, Pan, JP 9-168415, Mai;
- B.) WO 93/00840, Lee '856; and
- C.) WO 93/00840, Pan, JP 9-168415, Mai

Claims 49, 50 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Morgan or Rushing or Pan or JP 9-168415 or Mai.

Claims 51 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Lee '856<sup>2</sup>.

Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/00840 and Pan or JP 9-168415 or Mai.

Referring to Figure 1 of WO 93/00840, an umbrella apparatus (1) comprising:

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<sup>2</sup> It is noted that the filing date of Lee '856 is May 22, 2001 and the base patent properly claims benefit under 35 U.S.C. 119(e) to provisional application No. 60/267,018 filed on February 7, 2001. Thus, Lee '856 is only available as prior art for the proposed rejection if claims 51 and 55 are not fully supported under the first paragraph of 35 U.S.C. 112 by the provisional application. A review of the specification of provisional application No. 60/267,018 reveals that claims 51 and 55 are not supported because provisional application No. 60/267,018 does not disclose partially recessed lighting elements or wiring. Thus, Lee '856 is available as prior art with respect to claims 51, 55 and 60.

a base support portion (4);  
a pole portion (9) coupled to the base support portion;  
a canopy portion (8) having a plurality of rib members (not labeled but clearly shown in Figure 2 as support structures extending from the cap or housing of mast 9) coupled to the pole portion;

a rechargeable electrical power system for providing electrical power to the umbrella apparatus (rechargeable batteries 3); and

a solar energy system (2) carried by the pole portion above the canopy portion (2 covers at least part of the top of the canopy (8) thus it is above it and, given that it is carried by the canopy, it is also carried by the pole portion (9) which carries the canopy), the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system (by electrical wires 22), such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system (page 2, line 10 of the translation provided by Requester.)

With regard to the limitation of claims 49 and 72 that the canopy portion is "hingedly" coupled to the pole portion, it is

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noted that a hinge at the apex of umbrella apparatus (1) is not expressly shown in the Figures (although Figure 2 does show some sort of wire or circular member threading through two openings under the umbrella cap) nor expressly identified in the disclosure of WO 93/00840. Nevertheless, it can be shown that WO 93/00840 does operate in the manner recited in claims 49 and 72 and, thus, meets these limitations based on the principle of inherency:

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)

In the instant case, a full reading of the disclosed form and function of WO 93/00840 shows that recitation of a canopy portion hingedly coupled to a pole portion is implicitly taught. That is to say, the movement of WO 93/00840's components described in its disclosure are necessarily arrived upon through the hinged coupling described in claims 49 and 72. More particularly, WO 93/00840 discloses that the canopy (8) has associated mechanisms for opening it (page 1, line 6 of the translation provided by the requester.) WO 93/00840 further discloses that the fabric of which canopy 8 is composed (page 2,

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lines 4 and 5) is attached to stays 15 (page 2, line 9). Stay 15 includes short and long sections. The short section of 15 (labeled in Figure 1) is hinged to a longer section at a midpoint. Although the longer section is not labeled in the Figures, it is implicitly referenced as "15" in claim 3 by the process of elimination. To wit, no other element holds valence (23) and is attached supports (24.) Even the hinge connecting the two sections of 15 would serve to "hingedly" couple the canopy portion to the pole portion, but, beyond this point, by virtue of the placement of stay 15 against the pole, one end of the shorter section of 15 must pivot on the longer section of 15 while its other end slides down the pole. Such movement necessitates a hinge under the cap at the top of the pole. Additional evidence that umbrella apparatus (1) opens and closes conventionally (via a hinge at its apex) is provided by the disclosure of "a pin 18 for locking the hub 20 housed in a traverse guide 21" (page 2, lines 17 and 18.) Here again we see that hub 20 slides down guide 21 unless locked by pin 18 in the manner of an umbrella closing "hingedly" at a coupling of a canopy portion and a central shaft.

WO 93/00840 fails to teach a lighting system carried by the canopy portion, the lighting system being conductively coupled to and powered by the rechargeable electrical power system

wherein the lighting system includes multiple discrete elements. These differences are obvious in light of the teachings of either Morgan, Rushing, Pan, Lee '856, JP 9-168415 or Mai. More particularly, Figure 5 of Morgan, Figure 3 of Rushing, Figure 1 of Pan, Figure 1 of Lee '856, Figure 2 of JP 9-168415 and Figure 6 of Mai depict multiple discrete elements (24 of Morgan, lights 14 of Rushing, illuminator 5 of Pan, lamps 5 of Lee '856, LEDs 7 of JP 9-168415 and LEDs 83 of Mai, respectively.) With regard to claims 51 and 55, Figure 3 of Lee '856 shows the groove in rib 41 within which lamps 5 and wiring are at least partially recessed. With regard to claim 54, Pan, JP 9-168415 and Mai teach that the multiple discrete elements are LEDs (column 3, lines 1-5 of Pan and throughout the text of JP 9-168415 and Mai.)

To produce the structure recited in claims 49 and 50, WO 93/00840 must be altered to substitute (or to be augmented with) the lighting system of Morgan, Rushing, Pan, Lee '856<sup>3</sup>, JP 9-168415 or Mai for its lighting system (12 and 25). This could be accomplished by interfacing the wiring derived from rechargeable batteries 3 of WO 93/00840 with the wiring of the lighting

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<sup>3</sup> Claims 49 and 50 are not rejected with reliance on Lee '856 because provisional application 60/267,018 does support the subject matter claimed therein.



systems of the lighting system of Morgan, Rushing, Pan, JP 9-168415 or Mai for its lighting system (12 and 25).

Motivation for such a substitution is provided by the fact that much of the light provided by element 12 of WO 93/00840 would be directed away from a user because his or her head would be positioned below it (in a single plane, from Figure 1 it appears as if roughly only 45 degrees of a 180 degree range would be directed immediately toward the user.) Likewise, element 25 would similarly direct light away from a user who would be positioned to the side if the canopy base was attached to a table or diagonally above if the canopy base was placed at ground level in which case radiated light would originate at the level of the user's feet. In contrast the overhead lighting system of Morgan, Rushing, Pan, Lee '856, JP 9-168415 or Mai<sup>4</sup> directs less light at the canopy and provides for having many overhead elements. Substituting the lighting system of Morgan, Rushing, Pan, Lee '856, JP 9-168415 or Mai for the lighting system taught by WO 93/00840 would provide more direct overhead lighting.

IX.)

- A.) Phyle, Valdner, Morgan, Rushing, Pan, JP 9-168415, Mai;
- B.) Phyle, Valdner, Lee '856; and
- C.) Phyle, Valdner, Pan, JP 9-168415, Mai

Claims 49, 50 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Valdner, and Morgan or Rushing or Pan or JP 9-168415 or Mai.

Claims 51 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Valdner, and Lee '856<sup>5</sup>.

Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle and Valdner, and Pan or JP 9-168415 or Mai.

Referring to Figures 1 and 2 of Phyle, an umbrella apparatus (1) comprising:

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<sup>4</sup> Please see the discussion of the embodiment of Mai using transparent materials included in the rejections of claims 4 above which is incorporated herein by reference.

<sup>5</sup> It is noted that the filing date of Lee '856 is May 22, 2001 and the base patent properly claims benefit under 35 U.S.C. 119(e) to provisional application No. 60/267,018 filed on February 7, 2001. Thus, Lee '856 is only available as prior art for the proposed rejection if claims 51 and 55 are not fully supported under the first paragraph of 35 U.S.C. 112 by the provisional application. A review of the specification of provisional application No. 60/267,018 reveals that claims 51 and 55 are not supported because provisional application No. 60/267,018 does not disclose partially recessed lighting elements or wiring. Thus, Lee '856 is available as prior art with respect to claims 51 and 55.

a base support portion (the patio table which does not carry a reference number);

a pole portion (20) coupled to the base support portion;

a canopy portion (2) having a plurality of rib members (22), the canopy portion being hingedly coupled to the pole portion (column 2, lines 58-67); and

a lighting system (12) carried by the canopy portion (2), the lighting system being conductively coupled to and powered by an electrical power system (batteries 60).

What Phyle fails to show is a rechargeable electrical power system and a solar energy system integrated with a lighting system wherein the lighting system includes multiple discrete elements positioned along a rib member. These differences are obvious in light of the teachings of Valdner and Morgan or Rushing or Pan or Lee '856.

Figures 1 and 8 of Valdner disclose a rechargeable electrical power system (Figure 8) for providing electrical power to the umbrella apparatus; and

a solar energy system (38) carried by the pole portion (12) above the canopy portion (24,) the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being conductively coupled to the rechargeable electrical power system

such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system (column 2, lines 37-43.)

Further, Figure 5 of Morgan, Figure 3 of Rushing, Figure 1 of Pan, Figure 1 of Lee '856, Figure 2a of JP 9-168415 and Figure 6 of Mai depict multiple discrete elements (24 of Morgan, lights 14 of Rushing, illuminator 5 of Pan, lamps 5 of Lee '856, LEDs 7 of JP 9-168415 and LEDs 83 of Mai, respectively.) With regard to claims 51 and 55, Figure 3 of Lee '856 shows the groove in rib 41 within which lamps 5 and wiring are at least partially recessed. With regard to claim 54, Pan, JP 9-168415 and Mai teach that the multiple discrete elements are LEDs (column 3, lines 1-5 of Pan and throughout the text of JP 9-168415 and Mai.)

To produce the structure recited in claims 49, 50 and 72, Phyle must be altered to substitute (or to be augmented with) the lighting system of Morgan, Rushing, Lee '856, Pan, JP 9-168415 or Mai for its lighting system (12 and 25) and to substitute the rechargeable electrical power system and a solar energy system of Valdner for electrical power system (60,) including the addition of all necessary wiring to connect elements.

Motivation for the first alteration is provided by the decorative aspect of strings of lights such as those employed by Morgan, Rushing, Lee '856, Pan, JP 9-168415 or Mai that are in widespread use for the purposes of ornamentation. Motivation for the second alteration stems from the convenience of not having to change dry cell batteries when their power is exhausted and to make use of the unlimited and free natural resource of sunlight rather than paying for power off the grid.

X.) Phyle, Small and Valdner

Claims 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle, Small and Valdner.

Referring to Figures 1 and 2 of Phyle, a patio umbrella apparatus (1) comprising:

- a base support portion (the patio table which does not carry a reference number);
- a pole portion (20) coupled to the base support portion;
- a canopy portion (2) hingedly coupled to the pole portion (column 2, lines 58-67); and
- a lighting system carried by the canopy portion (12).

What Phyle fails to teach is a crank housing, a rechargeable power system, a switch, a solar energy system, an electrical charging system and a lighting system conductively coupled to and powered by the rechargeable electrical power system, the latter as recited in claim 59.

These limitations are taught by Small and Valdner.

Referring to Figures 1-3 of Small, an umbrella apparatus is taught comprising:

A crank housing (31 including the internal circuitry of Fig. 3) coupled to the pole portion (shown in Fig. 2), the crank housing being adapted to partially house a system for opening and closing the canopy portion (casing 31 holds part of the circuitry shown in Figure 3 which controls the opening and closing of Small's canopy);

a rechargeable electrical power system for providing electrical power to the umbrella apparatus (35);

a switch (32) disposed in the crank housing for controlling the provision of electrical power from the rechargeable electrical power system; and

a solar energy system (34) carried by the pole portion above the canopy portion (Fig. 1), the solar energy system being adapted to collect solar energy and convert the solar energy into electrical energy, the solar energy system being

conductively coupled to the rechargeable electrical power system, such that the solar energy collected and converted into electrical energy recharges the rechargeable electrical power system(see column 2, lines 53-72).

Referring to Figures 1-8, Valdner teaches an umbrella apparatus (10) including an electrical charging system for recharging a rechargeable electrical power system (column 2, lines 31-44) with power from an AC power outlet (an "electric house wall socket" (column 2, line 41) receives AC power).

To produce the structure recited in claims 57 and 58, Phyle must be altered to incorporate Valdner's electrical charging system which permits a rechargeable battery to be recharged from either a solar energy system or an AC power outlet. Further, Phyle must be altered to augment its structure with the crank housing, rechargeable electrical power system, solar energy system and switch of Small such that the lighting system of Phyle is conductively coupled to and powered by the rechargeable electrical power system.

Motivation for the first alteration is provided by the increased reliability implicit in having potential access to an alternate source of power on days when the potential of the solar energy system to provide all necessary power is strained or exceeded. Thus, Small's solar system and rechargeable

electrical power system could be conveniently backed up and replenished, respectively, with power from an AC outlet. Further, it is noteworthy that Valdner discloses that such alternate AC/solar recharging systems for batteries are "well known in the art" (column 2, line 42.)

Motivation for the second alteration is provided by the advantage of having circuitry in a protective housing which, in conjunction with a user actuated switch, controls the application of power to lights and the advantage provided by solar systems which recharge batteries without the need for the involvement of a human operator to remove batteries for charging.



**VII.) Status of Previous Rejections**

The following rejections were previously made by the  
Office:

- 1.) Claim 1 is rendered obvious by WO 93/00840 and Valdner under 35 USC § 103;
- 2.) Claims 2 and 5 are rendered obvious by WO 93/00840 and Phyle under 35 USC § 103;
- 3.) Claims 2 and 5 are rendered obvious by Phyle and Valdner under 35 USC § 103; and
- 4.) Claims 2 and 4 are rendered obvious by WO 93/00840 and Pan under 35 USC § 103.

Issue 1:

The rejection of claim 1 as being rendered obvious by WO 93/00840 and Valdner under 35 USC § 103 is maintained.

Issue 2:

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The rejection of claims 2 and 5 as being rendered obvious by WO  
93/00840 and Phyle under 35 USC § 103 is maintained.

Issue 3:

The rejection of claims 2 and 5 are being rendered obvious by  
Phyle and Valdner under 35 USC § 103 is maintained.

Issue 4:

The rejection of claims 2 and 4 as being rendered obvious by WO  
93/00840 and Pan under 35 USC § 103 is maintained.

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**VIII.) Withdrawn Confirmation of Claims**

Claims 6, 7 and 9 were previously confirmed. These claims now stand rejected for the reasons set forth above.

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**IX.) Status of Rejections Newly Proposed by Requester**

The following proposed rejections were taken from the Comments of the Third Party Requester received on December 21, 2005 and January 13, 2006.

Proposed Rejection 1:

Requester proposes "claim 4 is invalid under 35 USC § 103(a) as being obvious and unpatentable over either Combination II or III" (p.8 of the Dec. comments) and "claim 4 is invalid under 35 USC § 103(a) as being obvious and unpatentable over either Combination II or III and further in view of either Walker et al. (Exhibit 8) or Wu (Exhibit 9)" (p.9 of the Dec. comments.)

The proposed rejection of claim 4 as "invalid under 35 USC § 103(a) as being obvious and unpatentable over either Combination II or III" is not adopted.

The proposed rejection of claim 4 as "invalid under 35 USC § 103(a) as being obvious and unpatentable over either

Combination II or III" and further in view of Walker et al. is not adopted.

The proposed rejection of claim 4 as "invalid under 35 USC § 103(a) as being obvious and unpatentable over" Combination II and further in view of Wu is not adopted.

The proposed rejection of claim 4 as "invalid under 35 USC § 103(a) as being obvious and unpatentable" over Combination III and further in view of Wu is adopted although not for reasons given on p.3 of the Dec. comments.

Requester alleges that claim 4 is obvious in view of either WO 93/00840 and Phyle or Phyle and Valdner even though neither WO 93/00840, Phyle or Valdner teach a LED light element. Requester argues that the substitution of an LED element for a fluorescent element would be obvious since Phyle states that "other lighting device configurations are equally appropriate". While the highlighted statement of Phyle is noted, it is unclear whether the intended meaning has been correctly interpreted. From the context in which the statement appears, it seems more likely that Phyle's intention was to indicate that fluorescent

bulbs of different shapes other than the elongated configuration depicted in Figure 4 were equally applicable.

With regard to supplementing either combination II or III with Walker, Requester's assertion that rope lights 32 are necessarily LEDs is not persuasive. Insofar as Walker is silent regarding the particular technology used for rope lights 32, Walker fails to provide a teach an LED light element.

With regard to supplementing combination II with Wu, it is noted that combination II includes WO 93/00840 and Phyle. As applied in the last office action, the sole purpose of Phyle was as a teaching of a lighting system carried by the canopy portion and comprising a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power system. However, claim 4 does not require fluorescent light elements. Further, Wu teaches a lighting system carried by the pole portion. Thus, a rationale for including the Phyle reference in the proposed rejection is not discernible, certainly not from page 9 of the Dec. comments, which never addresses Phyle individually.

With regard to supplementing combination III with Wu, it is noted that combination III includes Phyle and Valdner. Requester

does not provide an explanation of how the references may be combined nor is a motivation for doing so stated on page 9 of the Dec. comments.

Proposed Rejection 2:

Requester proposes "Claims 45-74 are not patentably distinct from the references of Combinations I through IV of the Office Action" (p. 3 of the Jan. comments).

The proposed rejection of claims 45-74 as "not patentably distinct from the references of Combinations I through IV of the Office Action" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claims 45-74. To the extent that Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

Proposed Rejection 3:

Requester proposes "Claims 45-77 are not patentable under 35 USC § 103(a) in view of Combinations I, II and/or III" (p. 3 of the Jan. comments.)

The proposed rejection of claims 45-72 as "not patentable under 35 USC § 103(a) in view of Combinations I, II and/or III is not adopted.

The proposed rejection of claim 73 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III is not adopted.

The proposed rejection of claim 74 as "not patentable under 35 USC § 103(a)" in view of Combinations I and/or II is not adopted.

The proposed grounds of rejection of claim 73 as "not patentable under 35 USC § 103(a)" in view of Combination I is adopted.

The proposed grounds of rejection of claim 74 as "not patentable under 35 USC § 103(a)" in view of Combination III is



adopted although not for reasons given on p.3 of the Jan. comments.

From the context of these proposed rejections, it appears as if Requester made a typographical error and presumably intended to propose the rejection of claims 45-47 especially since claims numbered 75-77 are not pending nor have they existed in the file history. Notwithstanding that issue, Requester does not provide item-matching or a supporting rationale for rejecting any of claims 45-72 as proposed on page 3 of the Jan. comments. Further, a supporting rationale for rejecting claims 45-72 in view of Combinations I, II and/or III is not otherwise seen. Additional discussion of claims 73 and 74 is included under the sections devoted to proposed rejections 45 and 49.

Proposed Rejection 4:

Requester proposes "Claims 45-74 are not patentable under 35 USC § 112, first and second paragraphs" (p. 3 of the Jan. comments.)

The proposed rejection of claims 45-55 and 57-74 as "not patentable" under 35 USC § 112 second paragraph is not adopted.

The proposed grounds of rejection of claim 57 as being unpatentable under 35 USC § 112, second paragraph is adopted although not for reasons given on p.3 of the Jan. comments.

The proposed grounds of rejection of claims 45-47, 51, 55-62, 66-71 and 73-74 as being unpatentable under 35 USC § 112, first paragraph is adopted although not for reasons given on p.3 of the Jan. comments.

The proposed rejection of claim 48 as being unpatentable under 35 USC § 112, first paragraph is adopted.

Requester asserts that the term "common housing" is vague and indefinite. Insofar as a "common housing" does not appear as a limitation in all of claims 45-74, it appears as if Requester might have made a typographical error in proposing this rejection.

Setting aside the matter of which claims are covered by Requester's proposed rejection, it is noted that Requester

alleges that "the term 'common housing', is vague and indefinite" and "the specification is not enabling for a housing other than one located completely above the canopy portion and supported by the top of the pole" (p.3).

Turning first to the former argument, it is noted that the base patent specification refers to elements 44, 144 and 244 as " housings". Insofar as these elements are all crank cases, it is clear that the term housing is employed to mean "case" -- a commonly accepted synonym of "housing" that is consistent with its usage in certain of the new claims. Further, when the term "common" is paired with "housing" in the context of certain of the new claims, the language unambiguously represents a housing which holds within it more than one claim element, such claim elements having in common, or sharing, the housing. Thus, there is nothing vague or indefinite about the term "common housing".

Turning to the latter argument, the more critical point to consider is that the base patent disclosure does not support any common housing, recessed or not, for the rechargeable power system and the solar system. However, assuming that "housing" was inadvertently substituted for "power unit", the fact remains that the disclosure of the base patent as it was originally filed does not support an embodiment where the power unit housing is disposed only "partially" above the canopy as covered

by claim 48. For that reason, Requester's proposed rejection of claim 48 is adopted in this respect.

Proposed Rejection 5:

Requester proposes "Claim 48 is not patentable under 35 USC § 103(a) in view of Combinations I, II and/or III" (p.3 of the Jan. comments.)

The proposed rejection of claim 48 as "not patentable under 35 USC § 103(a) in view of Combinations I, II and/or III is not adopted.

Requester does not provide item-matching or a supporting rationale for rejecting claim 48 as proposed on page 3 of the Jan. comments. Further, a supporting rationale for rejecting claim 48 in view of Combinations I, II and/or III is not otherwise seen.

Proposed Rejection 6:

Requester proposes "Claim 48 is also not patentable under 35 USC § 112, first and second paragraphs". (pp. 3 and 4 of the Jan. comments).

Insofar as Proposed Rejection 4 encompasses Proposed Rejection 6, please see the response to Proposed Rejection 4.

Proposed Rejection 7:

Requester proposes "Claims 49-50 are not patentable under 35 USC § 103(a) in view of Combinations II and/or III" and "Claims 49-50 also are not patentable under 35 USC § 103(a) in view of Combinations II and/or III and further in view of either Morgan or Rushing" (p.4 of the Jan. comments.)

The proposed rejection of claims 49-50 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III" is not adopted.

The proposed rejection of claims 49-50 as "not patentable under 35 USC § 103(a)" in view of Combination II and further in view of either Morgan or Rushing" is not adopted.

The proposed grounds of rejection of claims 49-50 as "not patentable under 35 USC § 103(a)" in view of Combination III and further in view of either Morgan or Rushing" is adopted although not for reasons given on p.4 of the Jan. comments.

Requester does not provide complete item-matching or a rationale for combining references for any of the proposed rejections of claims 49-50 on page 4 of the Jan. comments. Further, a supporting rationale for rejecting claims 49 and 50 in view of Combinations II and/or III is not otherwise seen.

With regard to the proposed rejection relying on Combination II and Morgan or Rushing, it is noted that combination II includes WO 93/00840 and Phyle. As applied in the last office action, the sole purpose of Phyle was as a teaching of a lighting system carried by the canopy portion and comprising a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power system. However, claims 49 and 50 do not require fluorescent light elements. Further, Morgan or Rushing teach a lighting system carried by the pole portion. Thus, a rationale for including the Phyle reference in the proposed

rejection is not discernible, certainly not from page 4 of the Jan. comments, which never addresses Phyle individually.

With regard to the proposed rejection relying on Combination III and Morgan or Rushing, Requester does not provide an explanation of how the references may be combined nor is a motivation for doing so stated on page 4 of the Jan. comments.

Proposed Rejection 8:

Requester proposes "Claims 51-52 are not patentable under 35 USC § 103(a) in view of Combinations II and/or III for the same reasons as set forth above for Claims 49-50" (p.4 of the Jan. comments), "Claims 51 and 52 also are not patentable under 35 USC § 103(a) in view of Combinations II and/or III and further in view of Walker et al. (p.6 of the Jan. comments), and "Claims 51 and 52 also are not patentable under 35 USC § 103(a) in view of Combinations II and/or III and further in view of Lee" (p.6 of the Jan. comments.)

The proposed grounds of rejection of claims 51-52 as "not patentable under 35 USC § 103(a) in view of Combinations II

and/or III for the same reasons as set forth above for claims  
49-50" is not adopted.

The proposed grounds of rejection of claims 51-52 as "not  
patentable under 35 USC § 103(a) in view of Combinations II  
and/or III and further in view of Walker" is not adopted.

The proposed grounds of rejection of claims 51-52 as "not  
patentable under 35 USC § 103(a) in view of Combination II" and  
further in view of Lee '856 is not adopted.

The proposed grounds of rejection of claim 52 as "not  
patentable under 35 USC § 103(a)" in view of Combination III and  
further in view of Lee '856 is not adopted.

The proposed grounds of rejection of claim 51 as "not  
patentable under 35 USC § 103(a)" in view of Combination III and  
further in view of Lee '856 is adopted although not for reasons  
given on p.6 of the Jan. comments.

The reasons offered above for not adopting the proposed  
rejections of claims 49 and 50 are equally applicable to claims  
51 and 52 which depend therefrom. Furthermore, it is noted that



Requester alleges that "Walker et al. discloses a plurality of lighting elements partially recessed within the corresponding rib member" p. 4. In contradistinction, rope lighting 32 is entirely above the surface of ribs 16. Channels 16 appear to simply serve as a mechanism for fastening lighting 32 to ribs 16 and cannot be fairly interpreted as forming a portion of the ribs.

With regard to the proposed rejection of claims 51-52 with reliance on Combinations II and/or III and Lee '856, it is noted that Lee '856 does indeed teach fully recessed light elements. It is further noted that the filing date of Lee '856 is May 22, 2001 and the base patent properly claims benefit under 35 U.S.C. 119(e) to provisional application No. 60/267,018 filed on February 7, 2001. Thus, Lee '856 is only available as prior art for the proposed rejection if claims 51-52 are not fully supported under the first paragraph of 35 U.S.C. 112 by the provisional application.

A review of the specification of provisional application No. 60/267,018 reveals that claim 52 is fully supported but claim 51 is not because provisional application No. 60/267,018 does not disclose partially recessed lighting elements. Thus, Lee '856 is available as prior art with respect to claim 51.

That said, insofar as combination II includes WO 93/00840 and Phyle, there is no discernible reason to retain Phyle in a rejection which further combines Lee '856 because, as applied in the last office action, the sole purpose of Phyle was as a teaching of a lighting system carried by the canopy portion and comprising a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power system. However, claim 51 does not require fluorescent light elements. Further, Lee '856 teaches a lighting system carried by the pole portion of an umbrella. Thus, a rationale for including the Phyle reference in the proposed rejection is not discernible, certainly not from page 6 of the Jan. comments, which never addresses Phyle individually.

With regard to the proposed rejection relying on Combination III and Lee, although this grounds of rejection is adopted, Requester does not provide an explanation of how the references may be combined nor is a motivation for doing so stated on page 6 of the Jan. comments.

Proposed Rejection 9:

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Requester proposes "Claims 51-52 are also not patentable under 35 USC § 112, first and second paragraphs" (p.4 of the Jan. comments.)

The proposed rejection of claims 51 and 52 as "not patentable" under 35 USC § 112 second paragraph is not adopted.

The proposed rejection of claim 51 as being unpatentable under 35 USC § 112, first paragraph is adopted.

The proposed rejection of claim 52 as being unpatentable under 35 USC § 112, first paragraph is adopted.

Requester alleges that "the terms 'at least partially recessed within the corresponding rib member' and 'fully recessed within the corresponding rib member' are both vague and indefinite" and that there is "no support" for these same terms (pp.4 and 5.)

Turning first to the former argument, a lighting element that is fully recessed within a corresponding rib member as recited in claim 52 is depicted in Figures 4A, 4B and 4C. The language of claim 52 straightforwardly recites such a disclosed arrangement. Likewise, a reader could easily grasp that claim

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51 covers an embodiment such as depicted in Figures 4A, 4B and 4C except the tip of the lighting elements need not hang above the plane determined by the bottom surfaces of the rib members. Thus, no confusion arises in determining the subject matter which Patent Owner regards as his invention so a rejection under 35 USC § 112, second paragraph is not appropriate.

That said, Requester correctly points out that claim 51 covers an embodiment that was not supported by the base patent as originally filed. For that reason, Requester's proposed rejection of claim 51 under 35 USC § 112, first paragraph is adopted.

Proposed Rejection 10:

Requester proposes "Claim 53 is not patentable under 35 USC § 103(a) in view of Combinations II and/or III" and "Claim 53 is also unpatentable for the same reasons as stated above for Claims 49 and 52" (p. 6 of the Jan. comments.)

The proposed grounds of rejection of claim 53 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III" and claim 53 "for the same reasons as stated above for Claims 49 and 52" are not adopted.

The reasons offered above for not adopting the proposed rejections of claims 49 and 52 are equally applicable to claim 53.

Proposed Rejection 11:

Requester proposes "Claim 53 also is not patentable under 35 USC § 103(a) in view of Combinations II and/or III and further in view of Walker et al" (p.7 of the Jan. comments.)

The proposed grounds of rejection of claim 53 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III and further in view of Walker et al" is not adopted.

The reasons offered above for not adopting the proposed rejections of claims 49 and 52 are equally applicable to claim 53.

Proposed Rejection 12:

Requester proposes "Claim 54 is invalid on the same basis set forth above for Claim 49" (p.7 of the Jan. comments.)

The proposed rejection of claim 54 as invalid on the same basis set forth above for Claim 49" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claim 54. To the extent that Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

Proposed Rejection 13:

Requester proposes "Claim 54 is also not patentable under 35 USC § 103(a) in view of Combinations II and/or III and further in view of Walker et al" (p.7 of the Jan. comments.)

The proposed rejection of claim 54 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III and further in view of Walker et al" is not adopted.

The reasons offered for not adopting the proposed rejection of claim 49 is equally applicable to claim 54. With regard to supplementing either combination II or III with Walker, Requester's assertion that rope lights 32 are necessarily LEDs is not persuasive. Insofar as Walker is silent regarding the particular technology used for rope lights 32, Walker fails to teach an LED light element.

Proposed Rejection 14:

Requester proposes "Claim 54 is also not patentable under 35 USC § 103(a) in view of Combinations II and/or III and further in view of Japanese patent application No. 9-168415" (p.7 of the Jan. comments.)

The proposed rejection of claim 54 as "not patentable under 35 USC § 103(a)" in view of Combination II and further in view of JP 9-168415 is not adopted.

The proposed grounds of rejection of claim 54 as "not patentable under 35 USC § 103(a)" in view of Combinations III

and further in view of JP 9-168415 is adopted although not for the reasons provided on p.7 of the Jan. comments.

Insofar as combination II includes WO 93/00840 and Phyle, there is no discernible reason to retain Phyle in a rejection which further combines JP 9-168415 because, as applied in the last office action, the sole purpose of Phyle was as a teaching of a lighting system carried by the canopy portion and comprising a plurality of fluorescent light elements carried by the rib members, each fluorescent light element being conductively coupled to and powered by the rechargeable electrical power system. However, claim 54 does not require fluorescent light elements. Further, JP 9-168415 teaches a lighting system carried by the pole portion of an umbrella. Thus, a rationale for including the Phyle reference in the proposed rejection is not discernible, certainly not from page 7 of the Jan. comments, which never addresses Phyle individually.

With regard to the proposed rejection relying on Combination III and JP 9-168415, although this grounds of rejection is adopted, Requester does not provide an explanation of how the references may be combined nor is a motivation for doing so stated on page 6 of the Jan. comments.



That said, while it is noted that Requester has failed to provide a translation of JP 9-168415, it is nonetheless apparent from Figure 2A, for instance, that multiple elements (7a1, 7b1 and 7c1, for instance) are disposed on each rib. Further, the text of JP 9-168415 does indeed identify these elements as LEDs. Thus, even in the absence of a translation, one can gather that JP 9-168415 teaches the features missing from Combination II.

Proposed Rejection 15:

Requester proposes "Claim 55 is also not patentable under 35 USC § 103(a) in view of Combinations II and/or III" (p.7 of the Jan. comments.)

The proposed rejection of claim 55 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III" is not adopted.

Requester does not provide complete item-matching or a rationale for combining references for the proposed rejection of claim 55 on page 7 of the Jan. comments. Further, a supporting rationale for rejecting claim 55 in view of Combinations II and/or III is not otherwise seen.

Proposed Rejection 16:

Requester proposes "Claim 55 is also not patentable under 35 USC § 112, first and second paragraphs" (p.7 of the Jan. comments.)

The proposed rejection of claim 55 as "not patentable" under 35 USC § 112, second paragraph is not adopted.

The proposed rejection of claim 55 as being unpatentable under 35 USC § 112, first paragraph is adopted.

The reasoning applied with respect to the lighting elements of claim 51 in the discussion of Proposed Rejection 9 is applicable to the wires of claim 55 and, accordingly, is incorporated herein by reference.

Proposed Rejection 17:

Requester proposes "Claim 55 is invalid for the same reasons as Claim 51 set forth above" (p.7 of the Jan. comments.)

The proposed rejection of claim 55 as invalid for the same reasons as claim 51 set forth above" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claim 55. To the extent that Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

Proposed Rejection 18:

Requester proposes "Claim 55 also is not patentable under 35 USC § 103(a) in view of Combinations II and/or III and further in view of Walker et al." and "Claim 55 also is not patentable under 35 USC § 103(a) in view of Combinations II and/or III and further in view of Wu" (p.8 of the Jan. comments.)

The proposed rejection of claim 55 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III and further in view of Walker et al." is not adopted.

The proposed rejection of claim 55 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III and further in view of Wu" is not adopted.

Insofar as claim 55 depends from claim 51, any combination of references used to reject claim 55 must also account for the limitations of claim 51. Such is not the case with regard to Requester's proposed rejections. More particularly, neither Walker or Wu provide an apparatus where each lighting element is at least partially recessed. More particularly, it is noted that Requester alleges that "Walker et al. discloses a plurality of lighting elements partially recessed within the corresponding rib member" p. 4. In contradistinction, rope lighting 32 is entirely above the surface of ribs 16. Channels 16 appear to simply serve as a mechanism for fastening lighting 32 to ribs 16 and cannot be fairly interpreted as forming a portion of the ribs. Similarly, the lights of Wu, LEDs 31 and 32, are also fully outside of the surfaces from which they protrude.

Proposed Rejection 19:

Requester proposes "Claim 56 is invalid on the same basis as set forth above for Claims 15-17 and 20-24 above" (p.8 of the Jan. comments.)

The proposed rejection of claim 56 as "invalid on the same basis as set forth above for Claims 15-17 and 20-24 above" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claim 56. To the extent that Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

Proposed Rejection 20:

Requester proposes "Claim 56 is invalid under 35 USC § 112, first and second paragraphs" (p.8 of the Jan. comments.)

The proposed rejection of claim 56 as "invalid" under 35 USC § 112 second paragraph is adopted.

The proposed grounds of rejection of claim 56 as being "invalid" under 35 USC § 112, first paragraph is adopted.

Requester states that claim 56 is "vague and indefinite" and identifies "the rechargeable electrical power source" as lacking an antecedent basis. Requester's point is well taken.

Requester's second point that claim 56 is "lacking support in the specification for the term" is problematic because Requester has not identified the "term". Nonetheless, claim 56 is rejected under 35 USC § 112, first paragraph above although the reasons therefor were not proposed by Requester.

Proposed Rejection 21:

Requester proposes "Claims 57-58 are not patentable under 35 USC § 103(a) in view of Combinations I, II and/or III" (p.8 of the Jan. comments.)

Requester does not provide item-matching or a supporting rationale for rejecting claims 57-58 as proposed on page 8 of the Jan. comments. Further, a supporting rationale for rejecting claims 57-58 in view of Combinations I, II and/or III is not otherwise seen.

Proposed Rejection 22:

Requester proposes "Claims 57-58 are not patentable under 35 USC § 112, first and second paragraphs" (p.8 of the Jan. comments.)

The proposed rejection of claims 57 and 58 as "not patentable" under 35 USC § 112, second paragraph is not adopted.

The proposed rejection of claims 57 and 58 as being "not patentable" under 35 USC § 112, first paragraph is adopted.

Requester asserts that there is a lack of support in the specification for a switch disposed in the crank housing for controlling the provision of electrical power from the rechargeable electrical power system. Requester's point is well taken. The specification only states that switch 247 is "for controlling operation of motor 249" (col. 8, lines 18 and 19) and expanding and retracting umbrella portion 213 (col. 8, lines 24 and 25.) Thus, a rejection under 35 USC § 112, first paragraph is proper.

Requester also asserts that it is unclear for what purpose and to what apparatus the switches are controlling power. Insofar as the specification does not support this limitation, as discussed above, it would seem superfluous to require that an unsupported embodiment be claimed in more detail. That question need not be resolved; however, because Patent Owner's intended meaning is not unclear. Rather, the language in question is simply broad. Thus, a rejection under 35 USC § 112, second paragraph is proper.

Proposed Rejection 23:

Requester proposes "Claim 59 is not patentable under 35 USC § 103(a) in view of Combinations II and/or III" (p.9 of the Jan. comments.)

The proposed rejection of claim 59 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III" is not adopted.

Requester does not provide item-matching or a supporting rationale for rejecting claim 59 as proposed on page 9 of the Jan. comments. Further, a supporting rationale for rejecting



claim 59 in view of Combinations II and/or III is not otherwise seen.

Proposed Rejection 24:

Requester proposes "Claim 59 is invalid on the same basis as set forth above for Claims 45-47 and 57-58" (p.9 of the Jan. comments.)

The proposed rejection of claim 59 as "invalid on the same basis as set forth above for Claims 45-47 and 57-58 above" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claim 59. To the extent that Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

Proposed Rejection 25:

Requester proposes "Claim 59 is broader than the original claims" (p.9 of the Jan. comments.)

The proposed rejection of claim 59 as "broader than the original claims" is adopted.

Requester alleges that claim 59 is broader than the original claims because it does not recite "a pole portion coupled to the base support portion". Requester's assertion is well taken.

Proposed Rejection 26:

Requester proposes "Claims 60-62 are not patentable under 35 USC § 103(a) in view of Combinations II and/or III" (p.9 of the Jan. comments.)

The proposed rejection of claims 60-62 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III" is not adopted.

Requester does not provide item-matching or a supporting rationale for rejecting claims 60-62 as proposed on page 9 of the Jan. comments. Further, a supporting rationale for

rejecting claims 60-62 in view of Combinations II and/or III is not otherwise seen.

Proposed Rejection 27:

Requester proposes "Claims 60-62 are also invalid on the same basis as set forth above for Claims 50-52 and 54-55" (p.9 of the Jan. comments.)

The proposed rejection of claims 60-62 as "invalid on the same basis as set forth above for Claims 50-52 and 54-55" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claims 60-62. To the extent that Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

Proposed Rejection 28:

Requester proposes "Claims 60-62 are also not patentable under 35 USC § 112, first and second paragraphs" (p.9 of the Jan. comments.)

The proposed rejection of claims 60-62 as "not patentable" under 35 USC § 112 second paragraph is not adopted.

The proposed rejection of claims 60 as "not patentable" under 35 USC § 112 first paragraph is not adopted.

The proposed grounds of rejection of claims 61 and 62 as being "not patentable" under 35 USC § 112, first paragraph is adopted.

Requester asserts that "the terms 'conductor disposed within a corresponding rib member' is vague and indefinite." It appears as if Requester objects to the fact that wire 311, for example, of the base patent disclosure is termed "a conductor" when bulbs 307 are spaced along its length. Upon consideration, Patent Owner's choice of words is not seen to be unclear or imprecise.

Requester also asserts that the same terms indicated above are not supported by the specification. Although there are

elements of claims 61 and 62 that are not supported by the specification, these claims have not been rejected under 35 USC § 112, first paragraph for the reasons put forth by Requester. Rather, Figures 4A, 4B and 4C clearly show a "conductor disposed within a corresponding rib member".

Proposed Rejection 29:

Requester proposes claims 60-62 are not patentable under 35 USC § 103(a) in view of "Combinations II and/or III and further in view of Walker et al. or Wu" (p.10 of the Jan. comments.)

The proposed rejection of claims 60-62 as not patentable under 35 USC § 103(a) in view of "Combinations II and/or III and further in view of Walker et al. or Wu" is not adopted.

Requester alleges that "Walker et al. discloses a plurality of lighting elements partially recessed within the corresponding rib member" p. 4. In contradistinction, rope lighting 32 is entirely above the surface of ribs 16. Channels 16 appear to simply serve as a mechanism for fastening lighting 32 to ribs 16 and cannot be fairly interpreted as forming a portion of the

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ribs. Similarly, the lights of Wu, LEDs 31 and 32, are also fully outside of the surfaces from which they protrude.

Proposed Rejection 30:

Requester proposes "Claim 63 is not patentable under 35 USC § 103(a) in view of Combinations II and/or III" (p.10 of the Jan. comments.)

The proposed rejection of claim 63 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III" is not adopted.

Requester does not provide item-matching or a supporting rationale for rejecting claim 63 as proposed on page 10 of the Jan. comments. Further, a supporting rationale for rejecting claim 63 in view of Combinations II and/or III is not otherwise seen.

Proposed Rejection 31:

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Requester proposes "Claim 63 is also invalid on the same basis as set forth above for Claims 45-47" (p.10 of the Jan. comments.)

The proposed rejection of claim 63 as "invalid on the same basis as set forth above for Claims 45-47" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claim 63. To the extent that Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

Proposed Rejection 32:

Requester proposes "Claims 64-66 are not patentable under 35 USC § 103(a) in view of Combinations II and/or III" (p.10 of the Jan. comments.)

The proposed rejection of claims 64-66 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III" is not adopted.

Requester does not provide item-matching or a supporting rationale for rejecting claims 64-66 as proposed on page 10 of the Jan. comments. Further, a supporting rationale for rejecting claims 64-66 in view of Combinations II and/or III is not otherwise seen.

Proposed Rejection 33:

Requester proposes "Claims 64-66 are also invalid on the same basis as set forth above for Claims 45-48" (p.10 of the Jan. comments.)

The proposed rejection of claim 64-66 as "invalid on the same basis as set forth above for Claims 45-48" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claim 64-66. To the extent that Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

Proposed Rejection 34:



Requester proposes "Claim 67 is not patentable under 35 USC § 103(a) in view of Combinations II and/or III" (p.10 of the Jan. comments.)

The proposed rejection of claim 67 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III" is not adopted.

Requester does not provide item-matching or a supporting rationale for rejecting claim 67 as proposed on page 10 of the Jan. comments. Further, a supporting rationale for rejecting claim 67 in view of Combinations II and/or III is not otherwise seen.

Proposed Rejection 35:

Requester proposes "Claim 67 is also invalid on the same basis as set forth above for Claim 57" (p.10 of the Jan. comments.)

The proposed rejection of claim 67 as "invalid on the same basis as set forth above for Claim 57" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claim 67. To the extent that Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

Proposed Rejection 36:

Requester proposes "Claim 67 is also not patentable under 35 USC § 112, first and second paragraphs" (pp.9 and 10 of the Jan. comments.)

The proposed rejection of claim 67 as "not patentable" under 35 USC § 112 second paragraph is not adopted.

The proposed grounds of rejection of claim 67 as being "not patentable" under 35 USC § 112, first paragraph is adopted.

Requester alleges that the term "remote from the housing" is vague and indefinite. Furthermore, Requester states that the "claim is vague and does not distinctly claim the alleged invention because it does not recite to what the switch provides electrical power." Upon consideration, the language of claim 67

is not seen to be unclear or imprecise. One of ordinary skill in the art could easily identify the metes and bounds of claim 67 without stumbling over the text highlighted by the Requester. Thus, a rejection under 35 USC § 112, second paragraph is not warranted.

Requester also asserts that there is no support in the specification for the exact term "remote from the housing"; however, Requester's observation is seen to be aside from the point. While it is true that the identical words are not used in the base patent specification, nevertheless, a switch that is located remote from the housing is depicted in Figure 1, for example.

On the other hand, the base patent disclosure does not support an embodiment wherein the switch controls provision of electrical power from the rechargeable electrical power system. Accordingly, claim 67 is rejected under 35 USC § 112, first paragraph but not for the reasons proposed by Requester.

Proposed Rejection 37:

Requester proposes "Claim 68 is not patentable under 35 USC § 103(a) in view of Combinations II and/or III" (p.11 of the Jan. comments.)

The proposed rejection of claim 68 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III" is not adopted.

Requester does not provide item-matching or a supporting rationale for rejecting claim 68 as proposed on page 11 of the Jan. comments. Further, a supporting rationale for rejecting claim 68 in view of Combinations II and/or III is not otherwise seen.

Proposed Rejection 38:

Requester proposes "Claim 68 is also invalid on the same basis as set forth above for Claim 67" (p.11 of the Jan. comments.)

The proposed rejection of claim 68 as "invalid on the same basis as set forth above for Claim 67" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claim 68. To the extent that

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Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

Proposed Rejection 39:

Requester proposes "Claim 69 is not patentable under 35 USC § 103(a) in view of Combinations II and/or III" (p.11 of the Jan. comments.)

The proposed rejection of claim 69 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III" is not adopted.

Requester does not provide item-matching or a supporting rationale for rejecting claim 69 as proposed on page 11 of the Jan. comments. Further, a supporting rationale for rejecting claim 69 in view of Combinations II and/or III is not otherwise seen.

Proposed Rejection 40:

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Requester proposes "Claim 69 is also invalid on the same basis as set forth above for Claims 45-48 and 67-68" (p.11 of the Jan. comments.)

The proposed rejection of claim 69 as "invalid on the same basis as set forth above for Claims 45-48 and 67-68" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claim 69. To the extent that Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

Proposed Rejection 41:

Requester proposes "Claims 70-71 are not patentable under 35 USC § 103(a) in view of Combinations II and/or III" (p.12 of the Jan. comments.)

The proposed rejection of claim 70-71 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III" is not adopted.

Requester does not provide item-matching or a supporting rationale for rejecting claims 70-71 as proposed on page 12 of the Jan. comments. Further, a supporting rationale for rejecting claims 70-71 in view of Combinations II and/or III is not otherwise seen.

Proposed Rejection 42:

Requester proposes "Claims 70-71 are also invalid on the same basis as set forth above for Claims 45-48 and 50-55" (p.12 of the Jan. comments.)

The proposed rejection of claims 70-71 as "invalid on the same basis as set forth above for Claims 45-48 and 50-55" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claims 70-71. To the extent that Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

Proposed Rejection 43:

Requester proposes "Claim 72 is not patentable under 35 USC § 103(a) in view of Combinations II and/or III" (p.12 of the Jan. comments.)

The proposed rejection of claim 72 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III" is not adopted.

Requester does not provide item-matching or a supporting rationale for rejecting claim 72 as proposed on page 12 of the Jan. comments. Further, a supporting rationale for rejecting claim 72 in view of Combinations II and/or III is not otherwise seen.

Proposed Rejection 44:

Requester proposes "Claim 72 is also invalid on the same basis as set forth above for Claims 50-55" (p.12 of the Jan. comments.)



The proposed rejection of claim 72 as "invalid on the same basis as set forth above for Claims 50-55" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claim 72. To the extent that Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

Proposed Rejection 45:

Requester proposes "Claim 73 is not patentable under 35 USC § 103(a) in view of Combinations I, II and/or III" (p.12 of the Jan. comments.)

The proposed rejection of claim 73 as "not patentable under 35 USC § 103(a) in view of" Combination I is adopted

The proposed rejection of claim 73 as "not patentable under 35 USC § 103(a) in view of Combinations II and/or III" is not adopted.

Requester does not provide item-matching or a supporting rationale for rejecting claim 73 as proposed on page 12 of the Jan. comments. Further, a supporting rationale for rejecting claim 73 in view of Combinations II and/or III is not otherwise seen. However, insofar as page 12 of the Jan. comments points out the differences between claim 1 and claim 73, accounts for these differences in the teachings of the prior art and the item-matching for rejecting claim 73 in view of Combination I is substantially the same as the item-matching put forth in the last Office action with regard to claim 1, Requester's proposed rejection of claim 73 in view of Combination I is adopted.

Proposed Rejection 46:

Requester proposes Claim 73 is not patentable under 35 USC § 103(a) in view of Combinations I, II and/or III and further in view of Benton" (p.12 of the Jan. comments.)

The proposed rejection of claim 73 as "not patentable under 35 USC § 103(a) in view of Combinations I, II and/or III and further in view of Benton" is not adopted.

Requester does not provide item-matching or a supporting rationale for rejecting claim 73 in view of Combinations I, II and/or III and Benton as proposed on page 12 of the Jan. comments. Further, a supporting rationale for rejecting claim 73 in view of Combinations I, II and/or III and Benton is not otherwise seen.

Proposed Rejection 47:

Requester proposes Claim 73 is "invalid under 35 USC § 112, first and second paragraphs" (p.12 of the Jan. comments.)

The proposed grounds of rejection of claim 73 as "invalid" under 35 USC § 112 is adopted.

Initially, it should be noted that Requester does not state under which paragraph of 35 USC § 112 a rejection should be made.

Requester asserts that the phrase "carried atop the pole portion" is indefinite but does not offer reasons to support that position. In the absence of reasons offered by Requester, none are otherwise found insofar the meaning of the phrase seems

unambiguous. Thus, a rejection under 35 USC § 112, second paragraph would not be not proper.

However, it is noted that there is lack of support in the disclosure as originally filed for claim 73. Thus, a rejection under 35 USC § 112, first paragraph is required. More particularly, although claim 73 does not exclude an arrangement where the solar energy system is carried by the pole portion above the canopy portion, it also encompasses an arrangement where the solar energy system is beneath the canopy portion. Insofar as the base patent specification does not support an arrangement where the solar energy system is beneath the canopy portion, claim 73 is rejected.

Proposed Rejection 48:

Requester proposes claim 73 is "broader than the original claims" (p.12 of the Jan. comments.)

The proposed rejection of claim 73 as "broader than the original claims" is adopted.

Requester's argument that the deletion of limitations regarding the solar energy system from claim 1 constitutes a broadening of the scope of the original claims is well-taken.

Proposed Rejection 49:

Requester proposes Claim 74 is not patentable under 35 USC § 103(a) in view of Combinations II and/or III (p.13 of the Jan. comments.)

The proposed rejection of claim 74 as "not patentable under 35 USC § 103(a)" in view of Combination II is not adopted.

The proposed rejection of claim 74 as "not patentable under 35 USC § 103(a)" in view of Combination III is adopted although not for reasons given on p.13 of the Jan. comments.

Requester does not provide item-matching or a supporting rationale for rejecting claim 74 in view of Combination II as proposed on page 13 of the Jan. comments. Further, a supporting rationale for rejecting claim 74 in view of Combination II is not otherwise seen.

With regard to the proposed rejection of claim 74 in view of in view of combination III, it is likewise noted that Requester does not provide item-matching or a supporting rationale as proposed on page 13 of the Jan. comments. However, after reviewing the references, it is seen that this proposed grounds of rejection is valid although the supporting rationale for the same was not provided by Requester.

Proposed Rejection 50:

Requester proposes "Claim 74 is also invalid on the same basis as set forth above for Claims 2 and 73" (p.13 of the Jan. comments.)

The proposed rejection of claim 74 as "invalid on the same basis as set forth above for Claims 2 and 73" is not adopted.

In the absence of an indication of a statutory basis or a judicially created doctrine, Requester's proposal conveys no legal authority for rejecting claim 74. To the extent that Requester's intended meaning is discernible, this proposed rejection also appears to be duplicative.

**X.) Response to Patent Owner's Arguments**

1.) Patent Owner traverses the rejection of claim 1 as being rendered obvious by WO 93/00840 and Valdner under 35 USC § 103 for the following reasons:

A.) On page 21 of the December 5, 2005 Response, Patent Owner alleges that power cord 14 is provided only for operating the electrical components of WO 93/00840 rather than for recharging batteries 3.

In response, it is noted that WO 93/00840 was not put forward as a teaching of an electrical charging system for recharging the rechargeable electrical power system with power from an AC power outlet. Quite the contrary, the rejection explicitly states that Valdner is relied upon for such a teaching. Thus, Patent Owner's argument is not well taken because it is based on a misreading of the text of the rejection.

B.) Also on page 21 of the December 5, 2005 Response, Patent Owner alleges that is problematic that the solar energy system 2 of WO 93/00840 must fold down when the canopy is in the

down position. However, since claim 1 does not require that the solar energy system remain fixed when the canopy is closed, Patent Owner's cannot persuasively argue that the absence of this feature from WO 93/00840 effectively rebuts the rejection in question.

C.) On page 22 of the December 5, 2005 Response, Patent Owner alleges that Valdner expressly teaches away from large patio umbrellas. In support of this allegation, Patent Owner ostensibly quotes Valdner but, as Requester correctly points out on pages 3 and 4 of the Dec. 2005 comments, Patent Owner does not render the quotation correctly. Further, Patent Owner inaccurately portrays the entire context of the quotation. Valdner does not make a sweeping comparison between "a large patio umbrella that require a base support" and the opposite sort of umbrella. The lines that precede the quotation plainly reveal that Valdner is only, quite naturally, making a favorable comparison between the operation of its preferred embodiments and the operation of related patents.

It is further noted that the umbrella of the base patent may be used "with little or no base member whatsoever" and may be supported only by "the ground" (column 3, lines 40-44).

Lastly, it is noted that the size of the Valdner umbrella might possibly only be an issue if Valdner was employed as a



primary reference. In that case, perhaps one might argue that adding systems to a handheld umbrella would unduly add to its weight although the base patent's disclosure that the ground may comprise a support structure would belie that argument as well. However, none of those factors are at play here insofar as Valdner is only used as a secondary reference where isolated elements are taken and added to other structures with ample support structure.

D.) Also on page 22 of the December 5, 2005 Response, Patent Owner alleges that "the Valdner device is not designed to be used while the battery pack is being recharged by or connected to the AC power source." Firstly, claim 6 of Valdner reveals that Valdner could function without the battery pack. Even aside from that point though, Patent Owner's argument is not persuasive because claim 1 does not require that the umbrella apparatus be used while the battery pack is recharging from an AC source. Furthermore, the base patent includes an embodiment (shown in Figures 2A-C) wherein rechargeable batteries carried in a battery pack (155a) are separated from the umbrella for recharging from an AC outlet. In this embodiment of the base patent, the electronics of the umbrella apparatus cannot be used while the battery pack is removed for

recharging unless another fully recharged battery pack is substituted.

E.) On page 23 of the December 5, 2005 Response, Patent Owner alleges that the references of record do not provide a motivation for combining the electrical charging system of Valdner with the other elements recited in claim 1 taught by WO 93/00840. In reply, Patent Owner is reminded that an express teaching of the motivation to combine references need not be present in the references themselves. Motivation to combine references may be drawn from the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. In the instant case, it is clear that the nature of the problem to be solved is the same. Both WO 93/00840 and Valdner are directed to precisely the same problem of charging rechargeable batteries using a solar system on an umbrella. There is no doubt that practitioners of the invention of WO 93/00840 would take a keen interest in the manner in which Valdner overcame obstacles in achieving this goal, including the common obstacle of insufficient energy resources from a solar cell on overcast days. MPEP 2143.01 discusses case law that is on point to the facts of this case:

In Ruiz v. A.B. Chance Co., 357 F.3d 1270, 69 USPQ2d 1686 (Fed. Cir. 2004), the patent claimed underpinning a slumping building foundation using a screw anchor attached to the foundation by a metal bracket. One prior art reference taught a screw anchor with a concrete bracket, and a second prior art reference disclosed a pier anchor with a metal bracket. The court found motivation to combine the references to arrive at the claimed invention in the "nature of the problem to be solved" because each reference was directed "to precisely the same problem of underpinning slumping foundations." Id. At 1276, 69 USPQ2d at 1690. The court also rejected the notion that "an express written motivation to combine must appear in prior art references..." Id. at 1276, 69 USPQ2d at 1690.

F.) Lastly, on page 23, Patent Owner summarizes a variety of disparate assertions included in the second paragraph by concluding that "the claimed umbrella is used while it is supported in a generally stationary position"; however, WO 93/00840 is used in the same manner.

It should be noted that Patent Owner implies that the solar cell and AC power source of Valdner do not also serve to recharge battery pack 44. On the contrary, Valdner discloses that either the solar cell or an AC outlet may serve to recharge the battery (claim 6 of Valdner, for example.)

2.) Patent Owner traverses the rejection of claims 2 and 5 as being rendered obvious by WO 93/00840 and Phyle under 35 USC § 103 for the following reasons:

A.) On page 24, Patent Owner alleges that WO 93/00840 does not teach a lighting system carried by the canopy portion. Moreover, Patent Owner asserts that WO 93/00840 only teaches a lighting system carried within base 4 or within housing 12 located on the mast 9.

In response, it is noted that WO 93/00840 was not put forward as a teaching of a lighting system carried by the canopy portion. Quite the contrary, the rejection explicitly states that Phyle is relied upon for such a teaching. Thus, Patent Owner's argument is not well taken because it is based on a misreading of the text of the rejection.

B.) Also on page 24, Patent Owner alleges that is problematic that the solar energy system 2 of WO 93/00840 must fold down when the canopy is in the down position. However, since claims 2 and 5 do not require that the solar energy system remain fixed when the canopy is closed, Patent Owner's cannot persuasively argue that the absence of this feature from WO 93/00840 effectively rebuts the rejection in question.

C.) On page 25, Patent Owner alleges that "the batteries in the Phyle device are not rechargeable and the Phyle device has no means to recharge the batteries." Again, Phyle was not put forward as a teaching of a rechargeable electrical power system. WO 93/00840 was cited for that purpose. Thus, Patent Owner's observation is immaterial because it ignores the relevant facts of the rejection in question.

D.) Also on page 25, Patent Owner asserts that the Phyle device is not compatible with a recharging system because the battery housing of Phyle is not accessible. Insofar as only the lighting system of Phyle, and not its batteries or any other structural element, is incorporated into the structure of WO 93/00840, Patent Owner's opinion regarding the accessibility of the batteries of Phyle is beside the point. It is of no consequence where the various elements of Phyle are located within Phyle because the lighting system of Phyle are entirely divorced from their original system when combined with WO 93/00840. In other words, in combining WO 93/00840 and Phyle, the lighting system of Phyle is singularly added to WO 93/00840 and, within that blending, it is carried by the canopy of WO 93/00840 and energized by the power system of WO 93/00840.

3.) Patent Owner traverses the rejection of claims 2 and 5 as being rendered obvious by Phyle and Valdner under 35 USC § 103 for the following reasons:

A.) On page 26, Patent Owner asserts that the batteries of the Phyle device are not rechargeable and Phyle does not teach a means for charging batteries.

In response, it is noted that Phyle was not put forward as a teaching of a rechargeable electrical power system or a solar energy system integrated with lighting system 12. Quite the contrary, the rejection explicitly states that Valdner is relied upon for such a teaching. Thus, Patent Owner's argument is not well taken because it is based on a misreading of the text of the rejection.

Patent Owner likewise states on page 27 that the fluorescent lights are not coupled to and powered by a rechargeable power source. Insofar as this argument also attacks the Phyle reference as lacking teachings that the rejection stated were provided by Valdner, Patent Owner's arguments are similarly unpersuasive.

B.) On page 27, Patent Owner asserts that Phyle is not compatible with a recharging system, allegedly because the battery housing is clamped to the upper end of the pole where

Patent Owner believes they would be too difficult to access. Patent Owner's assertion is not well taken for several reasons. Firstly, because it should not be assumed that the rechargeable electrical power system of Valdner is integrated into the umbrella of Phyle such that it will be positioned in the same location as the nonrechargeable batteries of Phyle. Further, even if that was the case, Patent Owner's argument would fail because non-rechargeable batteries would require accessing what Patent Owner considers an unreachable location more often than the frequency with which rechargeable batteries connected to a cell would require. Lastly, the base patent disclosure teaches an embodiment in which batteries are placed at a location even more distant from the user than the location selected by Phyle (see Figures 6-9.)

C.) On page 27, Patent Owner asserts that Valdner does not teach a lighting system carried by the canopy portion.

In response, it is noted that Valdner was not put forward as a teaching of a lighting system carried by the canopy portion. Quite the contrary, the rejection explicitly states that Phyle is relied upon for such a teaching. Thus, Patent Owner's argument is not well taken because it is based on a misreading of the text of the rejection.

D.) On pages 27 and 28 of the December 5, 2005 Response, Patent Owner alleges that Valdner expressly teaches away from large patio umbrellas. In support of this allegation, Patent Owner ostensibly quotes Valdner but, as Requester correctly points out on pages 3 and 4 of the Dec. 2005 comments, Patent Owner does not render the quotation correctly. Further, Patent Owner inaccurately portrays the entire context of the quotation. Valdner does not make a sweeping comparison between "a large patio umbrella that require a base support" and the opposite sort of umbrella. The lines that precede the quotation plainly reveal that Valdner is only, quite naturally, making a favorable comparison between the operation of its preferred embodiments and the operation of related patents.

It is further noted that the umbrella of the base patent may be used "with little or no base member whatsoever" and may be supported only by "the ground" (column 3, lines 40-44).

Lastly, it is noted that the size of the Valdner reference might possibly only be an issue if Valdner was employed as a primary reference. In that case, perhaps one might argue that adding systems to a handheld umbrella would unduly add to its weight although the base patent's disclosure that the ground may comprise a support structure would belie that argument as well. However, none of those factors are at play here insofar as



Valdner is only used as a secondary reference where isolated elements are taken and added to other structures with ample support structure.

E.) On page 28 of the December 5, 2005 Response, Patent Owner alleges that the references of record do not provide a motivation for combining the rechargeable electrical power system and solar energy system of Valdner with the umbrella apparatus having a base, pole, canopy and lighting system of Phyle. In reply, Patent Owner is reminded that an express teaching of the motivation to combine references need not be present in the references themselves. Motivation to combine references may be drawn from the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. In the instant case, it is clear that the nature of the problem to be solved is the same. Both Valdner and Phyle are directed to precisely the same problem of powering electrical devices on an umbrella with battery power. There is no doubt that practitioners of the Phyle invention would take a keen interest in the manner in which Valdner overcame obstacles in achieving this goal, including the common obstacle of batteries discharging from powering load devices or through leakage current. MPEP 2143.01 discusses case law that is on point to the facts of this case:

In Ruiz v. A.B. Chance Co., 357 F.3d 1270, 69 USPQ2d 1686 (Fed. Cir. 2004), the patent claimed underpinning a slumping building foundation using a screw anchor attached to the foundation by a metal bracket. One prior art reference taught a screw anchor with a concrete bracket, and a second prior art reference disclosed a pier anchor with a metal bracket. The court found motivation to combine the references to arrive at the claimed invention in the "nature of the problem to be solved" because each reference was directed "to precisely the same problem of underpinning slumping foundations." Id. At 1276, 69 USPQ2d at 1690. The court also rejected the notion that "an express written motivation to combine must appear in prior art references..." Id. at 1276, 69 USPQ2d at 1690.

4.) Patent Owner traverses the rejection of claims 2 and 4 as being rendered obvious by WO 93/00840 and Pan under 35 USC § 103 for the following reasons:

A.) On pages 29 and 30, Patent Owner asserts that Pan may not be relied upon in light of two Declarations under 37 C.F.R. § 1.131 submitted. Firstly, it is noted that only the inventor of the subject matter of the rejected claim, the owner of the patent under reexamination, or the party qualified under § 1.42, 1.43, or 1.47, may submit an appropriate oath or declaration to establish invention of the subject matter of the rejected claim prior to the effective date of the reference or activity on which the rejection is based. Insofar as Patent Owner has filed

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a Declaration under 37 C.F.R. § 1.131 that is signed by Rodney S. Quillen who is neither the inventor or owner of the base patent nor a party qualified under § 1.42, 1.43, or 1.47, this Declaration is improper.

Moreover, Patent Owner must show that the teachings of claims 2 and 4 *in toto* were reduced to practice prior to the filing date of Pan. As the evidence submitted consists only of drawings, there is no text to confirm that the depicted elements are connected or interact in the manner recited in claims 2 and 4. Such information cannot be gleaned from the drawings submitted.

Lastly, Patent Owner has only provided conclusionary statements regarding the requirement for a showing of facts sufficient to show conception of the invention prior to the effective date of the reference coupled with due diligence from prior to the reference date to a subsequent (actual) reduction to practice or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to the reference date to the filing date of the application (constructive reduction to practice.) Thus, Patent Owner has failed to invention of the subject matter of claims 2 and 4 prior to the filing date of Pan.

**XI.) Response to Requester's Additional Arguments<sup>6</sup>**

1.) On pages 2-10 of the Dec. 2005 Comments, Requester advocates maintaining the following rejections:

I.) Claim 1 is rendered obvious by WO 93/00840 and Valdner under 35 USC § 103;

II.) Claims 2 and 5 are rendered obvious by WO 93/00840 and Phyle under 35 USC § 103;

III.) Claims 2 and 5 are rendered obvious by Phyle and Valdner under 35 USC § 103; and

IV.) Claims 2 and 4 are rendered obvious by WO 93/00840 and Pan under 35 USC § 103.

All of the before mentioned rejections have been maintained.

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<sup>6</sup> This section is restricted to arguments that were not already covered by section IX.

**XII.) Reasons for Confirmation/Patentability**

Claims 3, 8, 10-14,

The reasons for confirmation of claims 3, 8 and 10-14 put forth in the previous Office action mailed September 28, 2005 are applicable to the new art of record as well as the old and are thus maintained.

Claims 52 and 53

Claim 52 requires multiple discrete lighting elements wherein each lighting element is fully recessed within the corresponding rib member. None of the references of record which qualify as prior art under 35 USC 102 teach the same. Claim 53 depends from claim 52 and, accordingly, is patentable for at least the same reasons.

**XIII.) Observations Regarding Prior Art**

The following comments clarify the interpretation of certain references where the record is otherwise unclear:

Chou and Andreasen

Andreasen and Chou were reviewed with a particular interest toward the limitations of claims 51-53; however, were not found to teach lights recessed in rib members. While both references teach lights recessed in the central pole, there is no indication that transparent ribs disseminating refracted light are employed.

Small, Winterer and Cathel

Small, Winterer and Cathel were reviewed with a particular interest toward the limitations of claims 45-48, 56, 59, 61 and 63-70. If these claims should be amended to overcome the rejection under 35 USC 112, first paragraph, then attention is

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directed to the power unit structures of each of these references.

Vivian

Vivian was reviewed with a particular interest toward the claimed features of a crank housing and an electromechanical opening and closing system; however, insofar as the earliest possible effective filing date of Vivian is October 3, 2003, Vivian is not available for use as prior art against the base patent.

Molnar

Molnar was reviewed was reviewed with a particular interest toward the claimed feature of a cooling system but the cooling system of Molnar is not powered by a solar system and the battery disclosed is not identified as rechargeable.

Lai and Wilson

Lai and Wilson were reviewed with a particular interest toward the limitations of claim 8; however, they both lacked

specificity regarding the remote control systems employed. Further, with regard to claim 6, both Wilson and Lai lack a solar energy system and, accordingly, are inferior references for application in a rejection of claim 6 as compared to Small.

Lee '224

It is noted that Figures 5 and 6 of Lee '224 depicts recessed conductors but the light elements hang well beneath the bottom surface of the umbrella ribs. The light elements of Lee '856 are partially recessed but the conductors are also only partially, rather than fully, recessed. This observation is pertinent to the limitation of claim 60 of "a conductor disposed within a corresponding rib member" (which is construed to mean that the conductor must be fully, rather than partially, recessed) in combination with partially recessed lighting elements.



#### XIV.) Conclusion

Extensions of time under 37 CFR 1.136(a) will not be permitted in *inter partes* reexamination proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 314(c) requires that *inter partes* reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.937). Patent owner extensions of time in *inter partes* reexamination proceedings are provided for in 37 CFR 1.956. Extensions of time are not available for third party requester comments, because a comment period of 30 days from service of patent owner's response is set by statute. 35 U.S.C. 314(b) (3).

The patent owner is reminded of the continuing responsibility under 37 CFR 1.985(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving Patent No. 6,612,713 throughout the course of this reexamination proceeding. The third party requester is also reminded of the ability to similarly apprise the Office of

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any such activity or proceeding throughout the course of this reexamination proceeding. See MPEP 2686 and 2686.04.

In order to ensure full consideration of any amendments, affidavits or declarations, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be an Action Closing Prosecution (ACP), will be governed by 37 CFR 1.116(b) and (d), which will be strictly enforced.

Please mail any communications to:

Mail Stop "Inter Partes Reexam"  
Attn: Central Reexamination Unit  
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Alexandria VA 22313-1450

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(571) 273-9900  
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Art Unit: 3992

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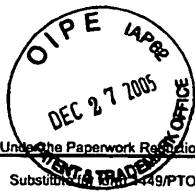
Any inquiry concerning this communication or earlier communications from the Examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.



Margaret Rubin  
Primary Examiner  
Central Reexamination Unit 3992

  
conferee  
conferee

YOT-1003-0619



PTO/SB/08A (07-05)

Approved for use through 07/31/2006. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>	Substitution Form 449/PTO		<b>Complete if Known</b>	
	Application Number	95/000,104		
	Filing Date	8/12/05		
	First Named Inventor	Gregory G. Kuelbs		
	Art Unit	3992		
	Examiner Name	Margaret Wembach Rubin		
Attorney Docket Number	0444MH-40982-REX			
Sheet 1	of 1			

U. S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)				
MR	AB	US-	6666224-B2	12-23-2003	Lee, Chong-Cheng	
MR	AC	US-	6499856-B2	12-31-2002	Lee, Chong-Cheng	
MR	AD	US-	6341873-B1	01-29-2002	Yang, Chiu-Hsiung	
MR	AE	US-	6298866-B1	10-09-2001	Molnar, IV, William F.	
MR	AF	US-	6270230-B1	08-07-2001	Mai, Kuei Ying	
MR	AG	US-	6089727	07-18-2000	Wu, Tsun-Zong	
MR	AH	US-	5664874	09-09-1997	Winterer, Allen G.	
MR	AI	US-	5463536	10-31-1995	Chou et al.	
MR	AJ	US-	5273062	12-28-1993	Mozdzanowski, Peter	
MR	AK	US-	5126922	06-30-1992	Andreasen	
MR	AL	US-	2005/0072451-A1	04-07-2005	Vivian, Charlie, et al.	
MR	AM	US-	2002/0078985-A1	06-27-2002	Farr, Fariss	
		US-				
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FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)					

Examiner Signature		Date Considered	11/29/06
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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