ILLUMINATION DEVICE FOR A MENU AND METHOD THEREOF

Inventors: John Jeffrey, Scottsdale, AZ (US); Greg Paterno, Scottsdale, AZ (US); David Burrows, Scottsdale, AZ (US)

Correspondence Address:
WEISS & MOY PC
4204 NORTH BROWN AVENUE
SCOTTSDALE, AZ 85251

Applied No.: 11/689,986
Filed: Mar. 22, 2007

Related U.S. Application Data
Provisional application No. 60/786,044, filed on Mar. 23, 2006, now abandoned.

Publication Classification
Int. Cl.
A47B 19/00 (2006.01)

U.S. Cl. 362/98

ABSTRACT

An illuminated menu book has a menu book having at least one cover. At least one flexible electroluminescent lighting sheet is coupled to the menu book. The electroluminescent lighting sheet will illuminate when excited with a voltage at a set frequency. A lighting circuit is coupled to the electroluminescent lighting sheet and positioned in an interior of the menu book. The lighting circuit is used for controlling illumination of the electroluminescent lighting sheet. A power supply is coupled to the lighting circuit and the electroluminescent lighting sheet for powering the lighting circuit and the electroluminescent lighting sheet.
Fig. 3
ILLUMINATION DEVICE FOR A MENU AND METHOD THEREOF

RELATED APPLICATION

[0001] This patent application is claiming the benefit of U.S. Provisional Patent Application having a Ser. No. 60/786,044, filed Mar. 23, 2006 in the name of John Jeffrey, Greg Paterno, and David Burrows, and entitled “MODULAR FLEXIBLE ILLUMINATION SYSTEM WITH MICROPROCESSOR CONTROL FOR MENUS”.

FIELD OF THE INVENTION

[0002] The present invention relates generally to illumination devices, and more specifically, to an illuminating device to be used in menu books, check books, and the like (hereinafter menu books) to allow the menu book to be a more legible and readable.

BACKGROUND OF THE INVENTION

[0003] In order to provide a nicer ambiance, many restaurants tend to lower or dim the lights. While providing for a more pleasant ambiance, the lower or dimming of the lights make it difficult for restaurant patrons to read the menu, wine list, bill and the like (hereinafter menu).

[0004] In order to overcome the above problem, some restaurant employees such as the maître d, waiter, or the like will carry flashlights to help restaurant patrons read the menu. Some restaurant patrons even bring their own flashlights in order to be able to see and read the menu.

[0005] Presently, there are illumination devices that may be used on a menu. U.S. Pat. No. 6,637,907 (hereinafter ‘907 patent) shows a Light Emitting Diode (LED) illumination device for a menu. The LEDs are coupled to each side of a menu. An illumination circuit is completed through the hands of a patron when the patron grips the edge of the menu, a hand position known to be assumed preparatory to reading.

[0006] The illumination device of the ‘907 patent is very limited in use for the patron and the establishment owner. The illumination device emits light only from the sides of the menu and has limited switching capabilities as well as flash and or animation possibilities. There is also no backlighting. The ‘907 patent also has a grip switch thus making it difficult to use if the user is not in constant contact with the menu. This is further problematic if the user has not been given specific use instructions of which are time consuming and thus costly for the establishment owner. Another problem with the illumination device of the ‘907 patent is that there is no circuitry to allow for a wide variation of programming possibilities customizable to the establishments needs: such as duration of lighting time, logo illumination, color change, animation capabilities, and the like.

[0007] Therefore, it would be desirable to provide a system and method to overcome the above problems. The system and method would assist patrons to clearly read a menu book and other like items.

SUMMARY OF THE INVENTION

[0008] In accordance with one embodiment of the present invention, an illuminated menu book is disclosed. The illuminated menu book has a menu book having at least one cover. At least one flexible electroluminescent lighting sheet is coupled to the menu book. The electroluminescent lighting sheet will illuminate when excited with a voltage at a set frequency. A lighting circuit is coupled to the electroluminescent lighting sheet and positioned in an interior of the menu book. The lighting circuit is used for controlling illumination of the electroluminescent lighting sheet. A power supply is coupled to the lighting circuit and the electroluminescent lighting sheet for powering the lighting circuit and the electroluminescent lighting sheet.

[0009] The foregoing and other objectives, features, and advantages of the invention will be apparent from the following, more particular, description of the preferred embodiment of the invention, as illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The novel features believed characteristic of the invention are set forth in the appended claims. The invention itself, as well as a preferred mode of use, and advantages thereof, will best be understood by reference to the following detailed description of illustrated embodiments when read in conjunction with the accompanying drawings, wherein like reference numerals and symbols represent like elements.

[0011] FIG. 1 is an elevated perspective view of the illumination menu book.

[0012] FIG. 2 is a perspective view of the illuminated menu book with the cover opened.

[0013] FIG. 3 is an exploded view of the illuminated menu book with the cover opened.

[0014] FIG. 4 is an exploded view of the illuminated menu book with the cover opened with alternative holding devices.

[0015] FIG. 5 is a perspective view of the illuminated menu book with the cover opened and the EL sheets removed.

DESCRIPTION OF PREFERRED EMBODIMENT

[0016] In response to the constant requests by patrons of food establishments to turn up the lights or to provide additional light so patrons can read the menu, book, and the like (hereinafter menu book), a new illumination device 10 has been invented to add to existing menu books or to use as the basis for a newly designed menu book.

[0017] Referring to the Figures, the illumination device 10 to be used in menu books 12 and the like is shown. The illumination device 10 is generally comprised of a lighting circuit 14 and a lighting sheet 16. The lighting sheet 16 is a flexible electroluminescent (EL) sheet 16 that when excited with a voltage at a set frequency will illuminate. The lighting sheets 16 can be any color or the lighting sheets 16 can be excited in such a way that the lighting sheet 16 changes color.

[0018] The lighting sheet 16 is coupled to the lighting circuit 14. The lighting circuit 14 is used to control the illumination of the lighting sheet 16. The lighting circuit 14 is coupled to a power supply 18. The power supply 18 is used to power the lighting circuit 14 and the lighting sheet 16. In general, the power supply 18 is a low voltage battery.

[0019] The lighting circuit 14 has a processor unit 20. The processor 20 is used to control the illumination of the lighting sheet 16. The processor 20 can turn on/off one or more of the lighting sheets 16. The processor 20 when programmed can automatically turn off the lighting sheet 16 after a predetermined amount of time in order to save power.
The processor 20 can further animate the lighting sheet 16 by flashing certain sections 16A or individual lighting sheets 16. The processor 20 can also be programmed to excite the lighting sheet 16 in such a way that the lighting sheet 16 changes color.

[0020] The lighting circuit 14 will generally have a switching unit 22. The switching unit 22 is coupled to the processor 20 and is used to activate and deactivate the lighting sheets 16. However, as stated above, the processor 20 may be programmed to automatically turn off the lighting sheet 16 after a predetermined amount of time in order to save power.

[0021] The illumination device 10 may be added to an existing menu book or to use as the basis for a newly designed menu book. The menu book may be a single cover menu book or a multi-cover menu book. As shown in the Figures, the menu book 12 is a multi-cover menu book having a front 28 and back 30 cover. A cavity 32 may be formed in either the front 28 or back 30 cover. The cavity 32 is used for housing part of the lighting circuit 14. Alternatively, the lighting circuit 14 may be positioned in the spine 36 of the menu book 12.

[0022] The switching unit 22 is coupled to at least one of the front 28 and back 30 cover of the menu book 12. When the menu book 12 is opened, the switching unit 22 will activate one or more lighting sheets 16 placed on/within the menu book 12. In accordance with one embodiment, the switching unit 22 is a magnetic switch. Thus, a contact 22A of the magnetic switch is positioned on the interior surface 28A and 30A of the front 28 and back 30 cover. When the menu book 12 is opened, the switching unit 22 will send a signal to the processor 20 to activate one or more lighting sheets 16 placed on/within the menu book 12. The switching unit 22 may also be a motion control mechanism which will activate the lighting sheets 16 when the menu book 12 is touched or grabbed. The above mentioned switching units 22 are given as examples, other switching units 22 may be used without departing from the spirit and scope of the present invention.

[0023] If the processor 20 and the power supply 18 are housed in the cavity 32 formed in either the front 28 or back 30 cover, a covering 34 is generally placed over the cavity 32 to hide the processor 20 and the power supply 18. The processor 20 is programmed per the customers (establishments) request. Thus, the processor 20 when programmed can automatically turn off the lighting sheet 16 after a predetermined amount of time in order to save power; can animate the lighting sheet 16 by flashing certain sections or individual lighting sheets 16, and the like. The above listing is given as an example. The processor may be programmed to control the individual lighting sheets 16 in other manners without departing from the spirit and scope of the present invention.

[0024] The lighting sheet 16 may be used in several different manners. In accordance with one embodiment, the lighting sheets 16 will have texts and/or graphics printed on the surface of one or more lighting sheets 16. The text will generally be the text of the menu. The graphics can be different designs, logos, etc. used to grab the attention of the patrons. The lighting sheets 16 will be coupled to the interior surface 28A and 30A of the front 28 and back 30 cover. In accordance with one embodiment, lighting are inserted into transparent pockets, sleeves, corner holders, etc. on the interior surface 28A and 30A of the front 28 and back 30 cover. When the menu book 12 is opened, the switching unit 22 will activate the lighting sheets 16 placed within the menu book 12 thereby illuminating the text so that the patrons can read the menu.

[0025] In accordance with another embodiment, the lighting sheets 16 may be coupled to the interior surface 28A and 30A of the front 28 and back 30 cover and used as back-lighting. Translucent sheets 26 having the menu text and/or graphics printed thereon may be positioned in front of the lighting sheets 16. The translucent sheets 26 may be inserted into transparent pockets, sleeves, corner holders, etc. on the interior surface 28A and 30A of the front 28 and back 30 cover. When the menu book 12 is opened, the switching unit 22 will activate the lighting sheets 16 placed within the menu book 12 thereby illuminating the lighting sheets 16. The light from the lighting sheets 16 will shine through the translucent sheets 26 so that the text on the translucent sheets 26 may be read.

[0026] In accordance with one embodiment, the power supply 18 is rechargeable. Thus, the power supply 18 will have leads 36 which will allow the power supply 18 to be coupled to a charging device. In accordance with one embodiment, the leads 36 are coupled to probes positioned on the edges of the menu book 12. The probes would then be plugged into a charging device to recharge the power supply 18. In accordance with another embodiment, solar cells may be coupled to a front surface of the front cover 28 of the menu book 12. Light energy would be used to recharge the power supply 18. In accordance with another embodiment, the power supply 18 would be of a motion charging device. Thus, the shaking or moving of the menu book 12 would cause the power supply to recharge. In a still further embodiment.

[0027] The illumination device 10 will assist patrons to clearly read the menu book. The illumination device 10 is modular and can be easily adapted to fit existing menu books.

[0028] While the invention has been particularly shown and described with reference to preferred embodiments thereof, it will be understood by those skilled in the art that the foregoing and other changes in form and details may be made therein without departing from the spirit and scope of the invention.

What is claimed is:
1. An illuminated menu book comprising:
   a menu book having at least one cover;
   at least one flexible electroluminescent lighting sheet coupled to the menu book, the electroluminescent lighting sheet illuminating when excited with a voltage at a set frequency;
   a lighting circuit coupled to the electroluminescent lighting sheet and positioned in an interior of the menu book for controlling illumination of the electroluminescent lighting sheet; and
   a power supply coupled to the lighting circuit and the electroluminescent lighting sheet.
2. An illuminated menu book in accordance with claim 1 wherein the menu book has a front and back cover.
3. An illuminated menu book in accordance with claim 2 further comprising a switching device coupled to the lighting circuit and to the menu book wherein opening the menu book closes the switching device and causes the electroluminescent lighting sheet to illuminate.
4. An illuminated menu book in accordance with claim 1 wherein the power supply is rechargeable.

5. An illuminated menu book in accordance with claim 4 further comprising leads coupled to the power supply for coupling the power supply to a recharging device.

6. An illuminated menu book in accordance with claim 1 wherein the at least one electroluminescent lighting sheet has text formed on the surface of the at least one electroluminescent lighting sheet.

7. An illuminated menu book in accordance with claim 1 further comprising at least one translucent sheet having text formed on a surface thereof, the at least one translucent sheet coupled to the at least one electroluminescent lighting sheet.

8. An illuminated menu book in accordance with claim 1 wherein the lighting circuit comprises a processor, the processor controlling illumination of the at least one electroluminescent lighting sheet.

9. An illuminated menu book in accordance with claim 8 wherein the processor is programmed to automatically turn off the at least one electroluminescent lighting sheet after a predetermined amount of time.

10. An illuminated menu book in accordance with claim 8 wherein the processor is programmed to animate the at least one electroluminescent lighting sheet by flashing certain sections or individual lighting the at least one electroluminescent lighting sheet.

11. An illuminated menu book in accordance with claim 8 wherein the processor is programmed to excited the at least one electroluminescent lighting sheet so the at least one electroluminescent lighting sheet changes color.

12. An illuminated menu book comprising:
   a menu book having a front and back cover;
   a plurality of flexible electroluminescent lighting sheets coupled to an interior surface of the front and back cover of the menu book, the electroluminescent lighting sheets illuminating when excited with a voltage at a set frequency;
   a lighting circuit coupled to the electroluminescent lighting sheets and positioned in an interior section of the menu book for controlling illumination of the electroluminescent lighting sheets;
   a power supply coupled to the lighting circuit and the electroluminescent lighting sheet; and
   a switching device coupled to the lighting circuit and to the menu book wherein opening the menu book closes the switching device and causes the electroluminescent lighting sheet to illuminate.

13. An illuminated menu book in accordance with claim 12 wherein the power supply is rechargeable.

14. An illuminated menu book in accordance with claim 13 further comprising leads coupled to the power supply for coupling the power supply to a recharging device.

15. An illuminated menu book in accordance with claim 12 wherein the plurality of electroluminescent lighting sheets have text formed on the surface thereof.

16. An illuminated menu book in accordance with claim 12 further comprising at least one translucent sheet having text formed on a surface thereof, the at least one translucent sheet coupled to one of the plurality of electroluminescent lighting sheets.

17. An illuminated menu book in accordance with claim 12 wherein the lighting circuit comprises a processor, the processor controlling illumination of the plurality of electroluminescent lighting sheets.

18. An illuminated menu book in accordance with claim 17 wherein the processor is programmed to automatically turn off the plurality of electroluminescent lighting sheets after a predetermined amount of time.

19. An illuminated menu book in accordance with claim 17 wherein the processor is programmed to animate at least one of the plurality of electroluminescent lighting sheets by flashing certain sections or individual lighting at least one of the electroluminescent lighting sheets.

20. An illuminated menu book in accordance with claim 17 wherein the processor is programmed to excited at least one of the plurality of electroluminescent lighting sheets so the at least one of the plurality of electroluminescent lighting sheets changes color.

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