ILLUMINATED TABLE TENT

An illuminated table tent comprises a transparent shell with an elongate light source, adapted to direct light radially through surfaces of the transparent shell, maintained within the interior of the shell. A menu or other semitransparent or translucent document is interposed between the light source and insider surface of the transparent shell. A pressure switch is biased in an extended position from a bottom surface of the table tent to turn the lights on when the weight of the table tent is lifted from the switch, and closes to turn the light source off when the table tent rests on the supporting surface and the switch is in a retracted position flush with the bottom surface of the table tent base. The table tent back-lights the menu for viewing only when the table tent is picked up and passed around, or turned over to form an always-on lantern; otherwise, the table tent is automatically maintained in an off position to save on battery power.
ILLUMINATED TABLE TENT

BACKGROUND OF THE INVENTION

[0001] This invention relates generally to table tents and more particularly to menu holders that are automatically back-illuminated when picked up.

[0002] Table tents are document holders found on the tables of establishments such as restaurants, bars, nightclubs, and the like. A typical table tent is a plastic frame and base that sandwiches an information card, such as the happy hour specials, between two planar/transparent upright members. The table tent serves two main purposes: to protect the information card, and to present the card for easy reading and in an attractive form so that patrons of the establishment are encouraged to order menu or drink items listed on that card.

[0003] Some establishments are dimly lit to create a certain ambiance, but this presents a problem in that table tents are difficult to read without sufficient light. Raising the lights would destroy the ambiance. Providing always-on localized light at the table tent is wasteful because the patron may only be periodically interested in the information on the card throughout their stay at the establishment.

[0004] Accordingly, the need remains for an attractive and useful alternative to standard table tents that address the drawbacks of the prior art.

SUMMARY OF THE INVENTION

[0005] The basic operation of the invention is to provide back-light to a menu or other written indicia when the menu is picked up off of the table. The menu can be printed on transparent or translucent material such as vellum. The vellum sheet is then curled into a cylinder and slipped within a transparent (e.g. plastic) cylindrical outer shell so that it rests against the inside of the shell.

[0006] The outer shell is coupled to a bottom circular fitting or base that holds the batteries. An elongated light source passes up through an axis of the circular fitting and into the interior space formed by the cylindrical outer shell. When the upper and lower parts of the device are coupled together (to form a "table tent"), the elongated light passes up along the long axis of the cylinder to illuminate the menu from behind.

[0007] A pressure switch located on an underside of the circular fitting is biased toward an extended position that extends beyond the bottom surface of the fitting. The weight of the table tent normally keeps the pressure switch in a retracted position whereby the switch and light are off. When the table tent is picked up off of the table, however, the pressure switch pops out to thereby turn on the elongated light which has the effect of backlighting the menu. In this way, the table tent is automatically illuminated only when of interest, e.g. when picked up and inspected, without the patron needing to fumble for an on-off switch.

[0008] The foregoing and other objects, features and advantages of the invention will become more readily apparent from the following detailed description of a preferred embodiment of the invention that proceeds with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1A is a perspective view of the illuminated table tent, implemented according to a preferred embodiment of the invention, and shown in exploded form to show the assembly of all parts.

[0010] FIG. 1B is a partially assembled version of FIG. 1A.

[0011] FIG. 2 is a fully assembled version of the invention of FIG. 1A.

[0012] FIG. 3A is a perspective view of the base of the illuminated table top to of FIG. 1A turned upside down with a bottom plate exploded outward so that the power source and pressure switch can be seen.

[0013] FIG. 3B is a schematic view of the light source, power source, and pressure switch device of the invention with the switch shown in an extended/on position.

[0014] FIGS. 4-6 illustrate alternate geometric configurations of the invention.

DETAILED DESCRIPTION

[0015] FIG. 1A illustrates the various elements that comprise a preferred embodiment of the illuminated table tent shown in exploded form along a long axis 12.

[0016] Illuminated table tent 10 includes a menu display section 14 comprising a transparent cylindrical shell 16 sealed on a top end by opaque cap 18. Shell 16 can be formed of any suitable transparent material, such as glass or plastic, that allows a menu or other document inserted behind it to be read. An opaque fitting 20 is coupled to a bottom of the cylindrical shell 16 and forms a portion of the table tent base on which the table tent rests. The menu display section 14 defines a hollow interior into which is received remaining portions of the table tent 10, including menu 22, an outer light diffuser 24, an inner light refractor 26, and a light/power source section 28. Finally, a lower end cap 30 seals the hollow interior and completes the assembly. These features will be further described below.

[0017] The transparent cylindrical shell is configured to retain a semitransparent or translucent component, such as menu 22, against an inside surface of the cylindrical shell. Menu 22 includes indicia 32 printed on its surface with a different level of transparency to the background of the menu so that the indicia can be read when backlit. It will be appreciated that the indicia 32 of the menu 22 can form a positive image so that the letters, numbers, pictures, etc. appear darker than the background and therefore block more of the light illuminating the menu from behind. Alternately, the indicia of the menu 22 can form a negative image so that the background is darker and the indicia 32 is more transparent and thus appears lighter when read.

[0018] In a preferred embodiment, the menu 22 is formed of a translucent material such as vellum that is easily printed upon, is durable, and is easily bendable into a cylinder as shown in the figures. The menu 22 shown is formed of a rectangular sheet having height and width dimensions that allow the sheet to be fully inserted within the hollow interior of the menu display section 14. Preferably, the menu 22 on which the indicia 32 is printed has a height H2 that is approximately equal to the height H1 of the transparent cylindrical shell 16. Furthermore, the width W1 of the menu is approximately equal to a circumference of an inner surface of the transparent cylindrical shell 16. It is preferred, therefore, that the menu and table tent be sized so that the following dimensions are closely approximate:

\[ H_2 \approx H_1 \]

\[ W_1 \approx 2\pi R \]

where \( R \) is a radius of the cylindrical shell 16 inner surface as measured from a long axis 12. The advantage of these dimen-
isions is that the entirety of the menu is then visible through the transparent window of the cylindrical shell. A smaller menu would create gaps through which illumination would pass, thus interfering with the aesthetics of the table tent. Similarly, a larger menu would either not fit within the hollow interior or be rolled up so that portions of the menu overlap and thus obscure other parts of the menu from view.

[0019] The lower opaque fitting 20 of the menu display section 14 includes an inwardly extending annular ledge 34 of radius r (where r>R) and is adapted to support the menu 22 within the hollow interior of the cylindrical shell when inserted therein. In use, the rectangular menu is rolled up into a cylinder as shown in FIG. 1A and inserted through the aperture 36 formed within the bottom of the menu display section 14. The menu is then allowed to naturally uncurl until the outer surface of the menu 22 rests against the inside surface of the transparent cylindrical shell 16. The menu, when inserted within the interior cavity of the table tent, is also allowed to rest against a top of the annular ledge 34 so that the menu is prevented from falling out the bottom 36 of the menu display section 14 as shown in FIG. 1B.

[0020] FIG. 1A also illustrates a light diffuser 24, an elongated light refractor 26, and a light/power source section 28 forming a base of the illuminated table tent 10. Light diffuser 24 includes an elongate cylindrical shell 38 that is formed of light diffusing materials, such as translucent vellum or plastic, and is coupled at a bottom end to a flange 40. Flange 40 has three cutouts 42 spaced on the peripheral edge of the flange that align with apertures 43 formed through the light/power source section 28. The lower end cap 30 is affixed to light/power source section 28 via screws 48 passing through apertures 44, 46 formed in section 28 and end cap 30, respectively. Section 28 is affixed to the underside of annular ledge 34 via allen head screws 49 passing through the apertures 43 and aligned cutouts 42. All sections of the illuminated table tent 10 would then be coupled together by a combination of screws 48 and 49 passing up through apertures 43, 44, 46 and cutouts 42, and up into the underside of the annular ledge 34 within the menu display section 14. An illustration of the fully assembled illuminated table tent 10 is shown in FIG. 2.

[0021] Lower section 28 is adapted to contain the power source and light source as shown in more detail in FIGS. 3A and 3B. The light source, in the preferred embodiment, comprises one or more low-power LED lights 50 mounted on a top surface 52 of the lower light/power source section 28 that are configured to shine upward along the axis 12 of the cylindrical shell 16. The elongate light refractor 26 is disposed along the cylindrical shell axis 12 and is positioned to receive the upwardly directed light from the LED lights 50. Light passing up through the length of refractor 26 is refracted outward radially from the axis 12 and toward the walls of the transparent cylindrical shell 16. An embodiment of the refractor 26 takes the form of a cylindrical bar and is marketed under the name Refractor Rod™ by Coast Products of Portland, Ore. As light from light source 50 is redirected radially along a substantial portion of the cylindrical shell height Hc, the redirected light acts to evenly back-light a menu 22 retained against the transparent cylindrical shell 16. The radially directed light is further evened out by the use of a translucent diffuser 24 interposed between light refractor 26 and the menu 22. Other sources of light are contemplated such as LED light bars.

[0022] FIGS. 3A and 3B illustrate the power source and its coupling to a light source through a switch to automatically turn the lights on or off. The power source is mounted within base 28. In the embodiment shown, the power source includes a set of AA batteries 54a, 54b that are coupled in series via a circuit 56 to power the lights 50.

[0023] A pressure switch 58, coupled to the circuit 56, is mounted within the base 28 and configured to activate when the illuminated table tent 10 is lifted from contact with a supporting surface 60 as shown in FIG. 3B. In the preferred embodiment shown, pressure switch 58 is biased to an extended position through an aperture 62 formed through the lower end cap 30 so that the button 64 extends beyond the planar bottom surface of the lower end cap 30. In this extended position, the pressure switch completes the circuit between the lights 50 and batteries 54a, 54b so that the lights are activated/on.

[0024] The bias of the pressure switch 58 is configured, however, so that the button 64 retracts into the aperture 62 and is flush with the bottom surface of the lower end cap 30 when the table tent is rested on supporting surface 60. The weight of the table tent 10 causes the button to move to a retracted position (not shown) to interrupt the circuit between the lights 50 and batteries 54a, 54b so that the lights are deactivated/off.

[0025] Other switches are possible that may serve the same function. Solid state pressure switches, light detectors, and the like may be configured to activate when the illuminated table tent is lifted from contact with the supporting surface to activate the light source so that the light source is turned on, otherwise interrupting the connection between the light source and the power source so that the light source is turned off. Other contemplated switches would incorporate a touch sensitive switch or strip.

[0026] In summary, with the pressure switch activated—that is, when the weight of the device causes the switch to be pushed in—the light is on. When the pressure switch is deactivated—that is, when the menu-holder device is picked up from the table so that the switch pops out—then the back light turns on. The menu can then be passed from patron to patron in a dark bar so that the menu items can be read all around the circumference of the menu holder/table tent. In the case of a power outage, the table tent can be turned upside down so that it becomes a lantern on the table. When the table-tent is placed right side up, the weight of the device pushes the pressure switch back in to turn out the light.

[0027] Having described and illustrated the principles of the invention in a preferred embodiment thereof, it should be apparent that the invention can be modified in arrangement and detail without departing from such principles. For instance, although the cylindrical structure of the illuminated table tent is preferred, other geometric forms are contemplated such as the box form (FIG. 4), the conical form (FIG. 5) and the pyramidal form (FIG. 6). We claim all modifications and variations coming within the spirit and scope of the following claims.

What is claimed is:
1. An illuminated table tent comprising:
a transparent cylindrical shell configured to retain a semi-transparent or translucent document against an inside surface of the cylindrical shell, said cylindrical shell having an axis passing through a center of the cylindrical shell;
a base coupled to a bottom of the transparent cylindrical shell and adapted to rest on a supporting surface;
a power source mounted within the base;
a light source, coupled to the power source, within an interior of the cylindrical shell and configured to direct light radially from within the cylindrical shell through exterior surfaces of the cylindrical shell so that the document retained against the transparent cylindrical shell is back-lit; and

a switch mounted within the base and configured to activate when the illuminated table tent is lifted from contact with the supporting surface to activate the light source so that the light source is turned on, otherwise interrupting the connection between the light source and the power source so that the light source is turned off.

2. The illuminated table tent of claim 1, wherein the switch is a pressure switch having an extended position that activates the light source and a retracted position that deactivates the light source, the pressure source being biased in an extended position so that a weight of the table tent resting on the supporting surface maintains the biased pressure switch in the retracted position but lifting the table tent from contact with the supporting surface allows the biased pressure switch to move to its extended position where the light source is activated.

3. The illuminated table tent of claim 2, wherein the light source includes:

one or more lights mounted within a top surface of the base, and configured to shine upward along the axis of the cylindrical shell through an elongate refractor; and

the elongate refractor being disposed within the transparent cylindrical shell along a substantial length of the axis thereof and configured to diffuse light, shining from the lights through a long axis of the refractor, in a radial direction along a length of the refractor so that the document retained against the transparent cylindrical shell is back-lit by the light source shining through the refractor.

4. The illuminated table tent of claim 1, wherein the light source includes:

one or more lights mounted within a top surface of the base, and configured to shine upward along the axis of the cylindrical shell through an elongate refractor; and

the elongate refractor being disposed within the transparent cylindrical shell along a substantial length of the axis thereof and configured to diffuse light, shining from the lights through a long axis of the refractor, in a radial direction along a length of the refractor so that the document retained against the transparent cylindrical shell is back-lit by the light source shining through the refractor.

5. The illuminated table tent of claim 4, further including a cylindrical diffuser interposed between the elongate refractor and the semitransparent or translucent document.

6. The illuminated table tent of claim 1, further including an inwardly extending ledge at a bottom of the cylindrical transparent shell on which the semitransparent or translucent document is supported.

7. The illuminated table tent of claim 1 wherein the table tent and document are sized so that a height $H_1$ of the transparent cylindrical shell is approximately equal to a height $H_2$ of the document and a circumference at the inside surface of the cylindrical shell is approximately equal to a width of the document.

8. An illuminated table tent comprising:

a transparent display;

a base coupled to a bottom of the transparent display;

a light source spaced from the transparent display;

a semitransparent or translucent document interposed between the transparent display and light source; and

a pressure switch coupled to the light source to deactivate the light source when the illuminated table tent rests on a supporting surface, otherwise activating the light source so that the document is illuminated for viewing through the transparent display.

9. The illuminated table tent of claim 8, wherein the transparent display is a cylindrical shell, the document being curled up against an insider surface of the cylindrical shell so that the document is retained thereby, and the light source passes up through a long axis of the cylindrical shell.

10. The illuminated table tent of claim 9, wherein the table tent and document are sized so that a height $H_1$ of the transparent cylindrical shell is approximately equal to a height $H_2$ of the document and a circumference at the inside surface of the cylindrical shell is approximately equal to a width of the document.

11. The illuminated table tent of claim 8, wherein the transparent display is a geometric form including one selected from a group consisting of a box, cone, or pyramid, with one or more documents being retained against one or more inside surfaces of the geometric form.

12. The illuminated table tent of claim 8, wherein the light source includes:

one or more lights mounted within a top surface of the base, and configured to shine upward along an axis of the transparent display through an elongate refractor; and

the elongate refractor being disposed within the transparent display along a substantial length of the axis thereof and configured to diffuse light, shining from the lights through a long axis of the refractor, in a radial direction along a length of the refractor so that the document retained against the transparent cylindrical shell is back-lit by the light source shining through the refractor.

13. The illuminated table tent of claim 12, further including a diffuser interposed between the elongate refractor and the semitransparent or translucent document.

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