

Sept. 17, 1963

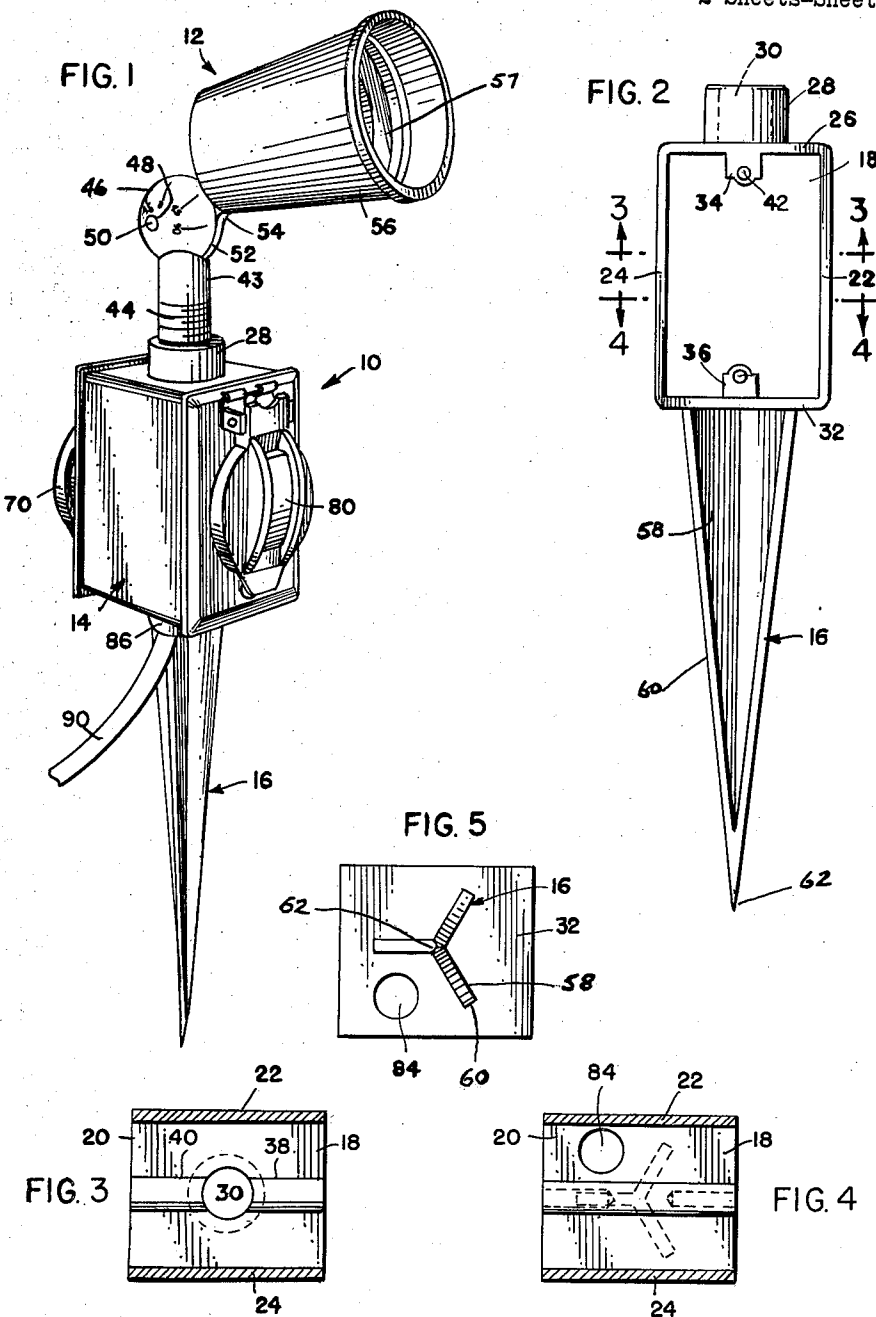
F. G. BELLEK

3,104,064

STAKE-DOWN OUTDOOR LIGHT

Filed March 22, 1961

2 Sheets-Sheet 1



INVENTOR:
FRANK G. BELLEK

BY
Robert D. Harbaugh
ATT'YS

Sept. 17, 1963

F. G. BELLEK

3,104,064

STAKE-DOWN OUTDOOR LIGHT

Filed March 22, 1961

2 Sheets-Sheet 2

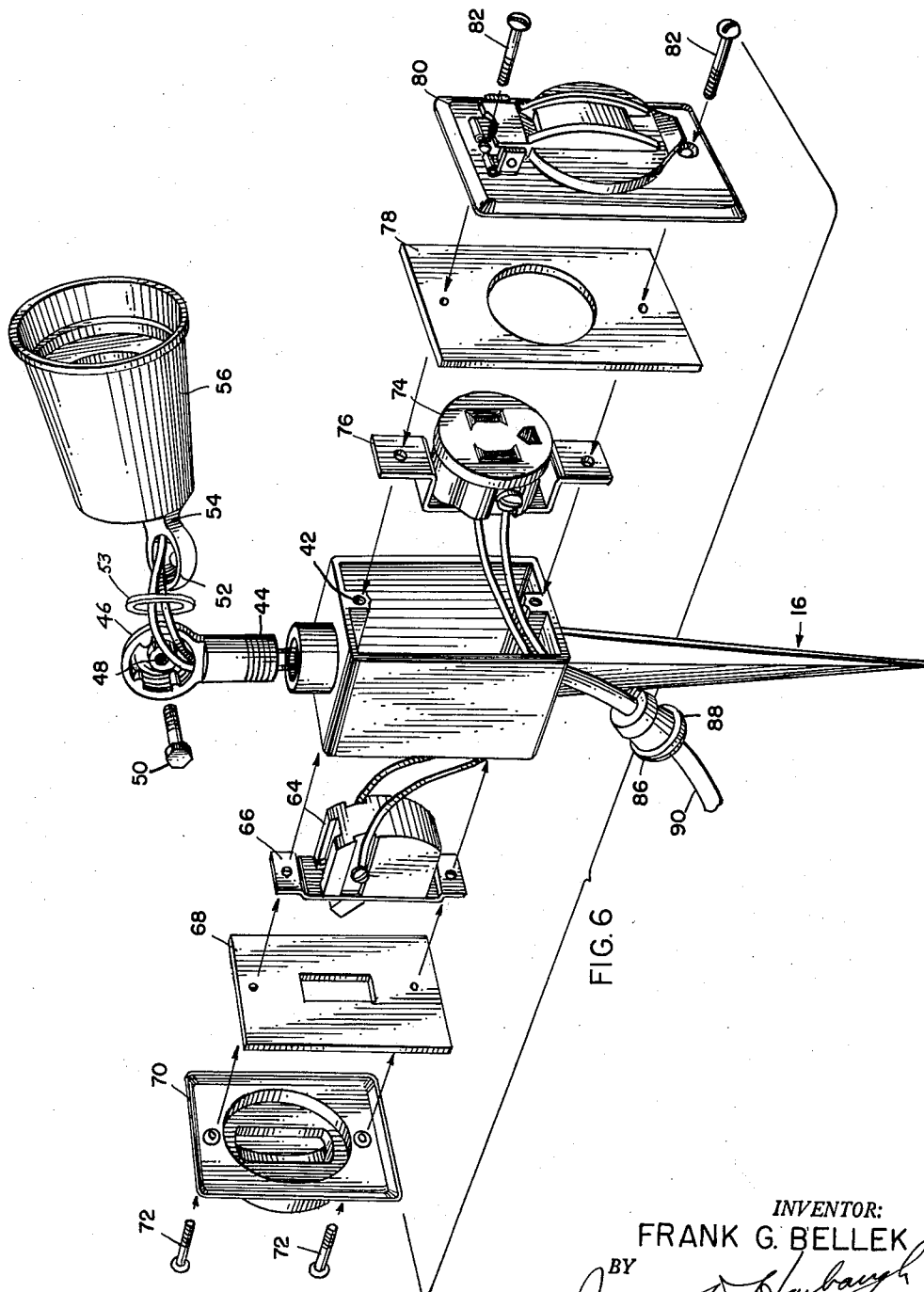


FIG. 6

INVENTOR:
FRANK G. BELLEK

BY

Datson & Harbaugh

ATT'YS.

1

3,104,064

STAKE-DOWN OUTDOOR LIGHT

Frank G. Bellek, Chicago, Ill., assignor to Bell Electric Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 22, 1961, Ser. No. 97,647

7 Claims. (Cl. 240-11.2)

This invention relates in general to illuminating devices and in particular to a portable outdoor weatherproof illuminating device for use primarily in the illumination of gardens, shrubbery, driveways and patios about the home or in parking lots and about the grounds of factories, buildings and parks.

The illuminating device of this invention contemplates a unique arrangement of a lamp-holding section in conjunction with a switching unit and a receptacle unit secured within a compact housing which is frictionally secured in the ground by an integral stake member extending outwardly from the bottom of the housing.

A specific object of this invention is to provide an improved illuminating device for outdoor use that may be positioned and repositioned with the minimum of effort yet rigidly anchored when embedded in the ground.

Another object of this invention is to provide an improved portable outdoor illuminating device having a lamp holder that is pivotally adjustable in either the horizontal or vertical plane.

A further object of this invention is to provide an improved outdoor illuminating device having, in combination with a lamp holder, an actuating switch assembly for the lamp control and a female receptacle secured within a housing which are sealed from the elements of the weather by self-sealing, snap-acting cover plates.

A still further object of this invention is to provide an improved weatherproof outdoor illuminating device having a rugged integral unitary cast housing with an elongated hold-down stake extending outwardly from one end thereof, the other end of the housing providing a planar surface for engagement by the foot to assist in forcing the stake into frictional securement with the ground.

Another object of this invention is to provide an improved weatherproof outdoor illuminating device having the electrical conduit to the device adjacent the ground to minimize damage to the conduit and to enhance the overall appearance of the device.

A still further object of this invention is to provide an improved weatherproof outdoor illuminating device which is light in weight, compact in size, simple in design, yet rugged in construction and economical to manufacture.

These being among the objects of the present invention, other and further objects and advantages will become apparent to those skilled in the art from the following drawings, description relating thereto, and the appended claims.

In the accompanying drawings:

FIG. 1 is a front perspective view of the illuminating device of this invention;

FIG. 2 is a side elevation view of the housing of this invention;

FIG. 3 is a cross-sectional view taken along the line 3-3 of FIG. 2;

FIG. 4 is a cross-sectional view taken along the line 4-4 of FIG. 2;

FIG. 5 is a bottom plan view of the illuminating device of this invention illustrating the structural arrangement of the stake hold-down; and

FIG. 6 is an exploded view in front perspective of the illuminating device illustrating the relationship of the several component parts.

Referring specifically to FIG. 1, the illuminating device of this invention, indicated by the numeral 10, is composed of three main sections: a lamp-holder section 12, a housing section 14, and a hold-down stake section 16.

2

As best seen in FIGS. 2, 4 and 5, the housing section 14 and the stake-down section 16 are a unitary structure and is preferably cast from an aluminum alloy. The housing is substantially rectangular in configuration forming an enclosure having two opposing open side walls 18 and 20, solid side walls 22 and 24, top wall 26, and bottom wall 32. An abutment 28 is centrally positioned on the outer surface of top wall 26 and is concentrically bored therethrough to the inner area of the housing. Tapered pipe threads 30 are formed in the opening in the abutment 28 to secure an anchor portion of the lamp-holding section 12 to be explained. A tri-web stake hold-down section 16 is centrally formed on the outer surface of the bottom wall 32 of the housing and extends downwardly therefrom in tapered fashion to a pointed tip for ease of engagement with the ground.

Rib members 34 and 36 are integrally formed on the inner surfaces of top wall 26 and bottom wall 32 respectively. Rib 34, as best seen in FIG. 3, is divided in two identical portions 38 and 40 due to the formation of the opening to the abutment 28. A threaded aperture 42 is formed in each of the outer ends of ribs 34 and 36 and extends inwardly a substantial distance for receipt of cover plate hold-down bolts to be described.

The lamp-holder section 12 is secured to the housing section by a pipe 43 having external pipe threads 44 formed on one end to engage the threaded opening in the abutment 28. The taper of threads 30 in the abutment 28, when engaged by the external threads 44 of pipe 42, forms a tight leakproof seal between the surfaces of the threads. A commercial thread-sealing compound may also be used, if desired, to aid in forming the seal but is not necessary. One portion 46 of a pivotal connector, preferably in the form of a hollow half ball, is integrally formed on the other end of support pipe 42 and provides a threaded aperture 48 therethrough for receipt of a connector screw 50. The other portion 52 of the pivotal connector is also in the form of a hollow half ball, and provides an opening through which the connector screw 50 may pass to engage the threaded aperture 48. A washer member 53, preferably formed from a fiber material, is disposed between the two flat surfaces of the connectors to insure a positive leakproof seal connection and to assist in frictionally retaining the connectors in a clamped position. When in the assembled condition, the flat surfaces of each portion of the connector are placed in abutting relationship and are drawn into solid physical contact with the washer 53 therebetween by the connector screw 50. Integrally formed on the inner flat surface of connector portion 52, as an extension of the flat surface thereof, is an arm 54 to which is secured a bell-shaped lamp holder 56. The lamp holder 56 houses a standard screw receptacle for receipt of a conventional lamp (not shown). Mounted within the lamp holder 56 is a sealing member 57 which prevents moisture or contamination from the atmosphere to reach the contacts of the electrical connections when a lamp is installed. By backing off the connector screw 50, which releases the pressure on the abutting surfaces of the two connector members 48 and 52, the lamp holder 56 may be rotated through an arc in the vertical plane of approximately 250° to any desired position and retained in that position by clamping the abutting surfaces of the connector through the drawing action of screw 50. Scribe lines and a marker may be formed on the outer curved surfaces of the connector members to indicate the angular position of the lamp if desired.

The hold-down stake section 16, as best seen in FIG. 2 and FIG. 5, is integrally cast with the housing section 10 and extends downwardly from the bottom wall 32 approximately 6 inches. The hold-down stake has a tri-web cross-sectional configuration, that is, three web mem-

3

bers 58 are secured together along one edge with the outwardly extending edges 60 disposed 120° apart. The edges 60 of each of the web members 58 are angularly formed from the top of the stake, integral with the housing, and extend inwardly meeting at a common point or tip 62 to provide a rugged, tapered hold-down stake. The tapered stake is readily inserted into the ground with the web members providing ample surface area to restrain twisting or dislodgment. Where difficulty is encountered in pushing the hold-down stake into the ground, the upper surface 26 of the housing presents sufficient area whereby the foot may be used thereon for additional downward force to embed the stake into the ground.

Referring now specifically to FIG. 6, a snap-acting off-on switching unit 64, of conventional design, is mounted in the housing through one of the open sides 18 or 20. A support bracket 66 is secured to the switch to provide openings in alignment with the threaded apertures 42 in the housing. A gasket member 68 and a snap-down cover plate 70 are positioned over the switch unit 64 and are secured to the housing along with the switching unit 64 by bolts 72 threadably engaging the threaded apertures 42. The snap-down cover plate 70 is shown in my Patent No. 2,867,345, reference being made herewith. The combination of the gasket 68 and cover 70, when secured to the housing, provides a completely weatherproof installation of the switching unit.

A receptacle unit 74 is mounted on the opposite side of the housing as the switching unit, in a back-to-back relationship, and provides a supporting bracket 76 thereon having openings in alignment with apertures 42 in the housing. In like manner as the switching unit, a gasket member 78 and a snap-down cover plate 80 are positioned over the receptacle and secured to the housing by bolt members 82 threadably engaging the apertures 42. Here again the combination of the gasket and cover plate provides a completely weatherproof installation of the receptacle within the housing.

Referring now to FIGS. 5 and 6, an opening 84 is formed through the bottom wall 32 of the housing between two of the webs 58, of the stake section 16, and is adjacent to the side of the housing having the longest dimension. A sealing plug 86, preferably formed from rubber, is designed to be inserted through the opening 84. The plug, circular in contour, has an external taper providing an enlarged shoulder 88 on the lower end which seats against the lower wall 32 of the housing. An opening is concentrically formed through the plug for receipt of an electrical cable 90 which carries therein two lines for connection to a power source. The outside diameter of the tapered portion of the plug 86 is substantially greater than the diameter of the opening 84 in the bottom wall of the housing to serve two purposes; first, to insure positive securement of the plug in the housing by the resilient force set up when deformation takes place in inserting the plug into the opening, and, secondly, to compress the opening through the plug to grip the electrical cable passing therethrough which in turn provides a completely weatherproof installation of the electrical cable within the housing. The electrical cable may be provided in various lengths and is provided on the other end with an electrical connector not shown to be connected with the household line voltage.

It is therefore readily apparent from the above description that the installation of the lamp-holding section 12, the switching unit 64, the receptacle unit 74, and the electrical cable 90 within the unitary housing section 14 provides a compact and completely weatherproof outdoor lighting device.

The switching unit 64 is wired in series with the lamp holder, the wires to the lamp holder passing up through the support pipe 43, the half ball connectors 48 and 52, and the arm 54 to the base of the lamp holder 56. The

4

receptacle 74 is wired in parallel to the inlet line voltage to permit use of the lighting device without the necessity of using the switch and lamp. This provides a convenient outlet for use of other electrical items such as an electrically operated mower, barbecue spits, and hand-powered tools.

The inlet cable, preferably formed from a weatherproof material, is supplied with the lighting device in standard lengths of ten, twenty and twenty-five feet. By providing a receptacle 74 in each unit, it is obvious that a plurality of the lighting devices of this invention may be interconnected to illuminate a large area, but eliminates the necessity of a plurality of long interconnecting cables as commonly found today.

Although the invention has been described in connection with a specific embodiment, the principle involved is susceptible of numerous other applications which will readily occur to persons skilled in the art. The invention is, therefore, to be limited only as indicated by the scope of the appended claims.

What is claimed:

1. A weatherproof illuminating device comprising a housing having two opposing open walls, an electrical actuating switch within the housing, actuating portions of the switch extending outwardly from one of the open walls, an electrical receptacle secured within the housing, entrance of receiving slots of said receptacle extending outwardly from the other open walls, a support member secured in weathertight sealed relationship to the upper surface of the housing, a lamp holder mounted on said support member, a hold-down stake carried by the bottom of said housing and extending downwardly therefrom, and a sealing plug disposed in an aperture in the bottom of said housing to secure and form a weatherproof seal around an electrical cable, one end of the cable interconnecting said switch, lamp holder and receptacle, the other end of the cable connected to a power source.

2. A portable weatherproof outdoor illuminating device comprising: a housing forming a rectangular enclosure, said housing having two opposing open side walls, an electrical actuating switch secured within the housing, actuating portion of said switch extending outwardly from one of said open side walls, an electrical receptacle secured within the housing, entrance of receiving slots of said receptacle extending outwardly from the other open side wall, a support member threadably engaged in the upper surface of said housing, a lamp holder pivotally secured to said support member, a hold-down stake integrally formed on the bottom of said housing and extending downwardly therefrom in tapered contour to a pointed tip, said stake embedded in the ground to support the device in an upright position, and a sealing plug disposed in an opening formed in the bottom of said housing to secure and seal around an electrical cable, one end of the cable interconnecting said switch, lamp holder, and receptacle, the other end of the cable connected to a power source.

3. A portable weatherproof outdoor illuminating device comprising: a cast housing forming a rectangular enclosure having two opposing open side walls, an electrical switch secured within the housing, actuating portion of said switch extending outwardly from one of said open side walls, first cover means secured over said switch to said housing sealing the open side wall thereof, an electrical receptacle secured within the housing, entrance of receiving slots of said receptacle extending outwardly from the other open side wall, second cover means secured over said receptacle to said housing sealing the open side wall thereof, a cylindrical abutment extending upwardly from the top of said housing, said abutment having a tapered threaded aperture formed concentrically therein extending downwardly into said enclosure, a support member threadably engaged in said abutment, a lamp holder, means to pivotally secure said lamp holder

5

to the other end of said support member, a hold-down stake integrally formed on the bottom of said housing and extending downwardly therefrom in tapered contour to a pointed tip, said stake embedded in the ground to support the device in an upright position, and a sealing plug disposed in an opening formed in the bottom of said housing to secure and seal around an electrical cable, one end of the cable interconnecting said switch, lamp holder, and receptacle, the other end of the cable connected with a power source.

4. A portable weatherproof outdoor illuminating device comprising: a housing forming a rectangular enclosure having two opposing open side walls, two opposing solid side walls, a top wall and a bottom wall; first rib member formed on the inner surface of said bottom wall; second rib member formed on the inner surface of said top wall; an electrical switch secured within the housing, actuating portion of said switch extending outwardly from one of said open side walls, first cover means secured over said switch to said housing sealing the open side wall thereof, an electrical receptacle secured within the housing, entrance of receiving slots of said receptacle extending outwardly from the other open side wall, second cover means secured over said receptacle to said housing sealing the open side wall thereof, a cylindrical abutment extending upwardly from the top of said housing, said abutment having a tapered threaded aperture formed concentrically therein extending downwardly into said enclosure, a support member threadably engaged in said abutment, a lamp holder, means to pivotally secure said lamp holder to the other end of said support member, a hold-down stake integrally formed on the bottom of said housing and extending downwardly therefrom in tapered contour to a pointed tip, said stake embedded in the ground to support the device in an upright position, and a sealing plug disposed in an opening formed in the

6

bottom of said housing to secure and seal around an electrical cable, one end of the cable interconnecting said switch, lamp holder, and receptacle, the other end of the cable connected with a power source.

5. The invention as called for in claim 4 wherein said first and second rib members have the end surfaces thereof facing said open sides with threaded apertures formed therein for receipt of screw members to secure said receptacles, switching unit, and cover means to the housing in leakproof relationship.

6. The structure as set forth in claim 3 wherein said first and second cover means comprise a resilient gasket and a spring-loaded pivotal cover plate secured over each of the open sides of the housing.

7. The structure as set forth in claim 4 wherein said means to pivotally secure said lamp holder comprises a first connector member having a half ball configuration integrally formed on the end of said support, a washer member, and a second connector member having a half ball configuration secured to the lamp holder, the flat surfaces of said first and second connector members frictionally secured together with said washer disposed therebetween by a hold-down screw which is loosened to permit rotational movement between said first and second connector members.

References Cited in the file of this patent

UNITED STATES PATENTS

2,668,901	Austin	Feb. 9, 1954
2,747,036	Brodsky et al.	May 22, 1956
2,763,774	Beach et al.	Sept. 18, 1956
2,812,423	Penna	Nov. 5, 1957
2,850,622	Johnson	Sept. 2, 1958
2,867,345	Bellek	Jan. 6, 1959
2,874,270	Douglass et al.	Feb. 17, 1959
2,892,074	O'Morrow	June 23, 1959