A lamp designed particularly for being flush mounted in numerous applications particularly at aircraft fields, the device comprising continually plurality of lamp bulbs which are footed within a vertically slideable carriage that is track mounted within the housing so as to bring the carriage above the surface of the ground while the housing is secured below ground, thus allowing the lamp to extend above the ground surface only when necessary.

2 Claims, 3 Drawing Figures
3,666,935

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RETRACTABLE FLOOD LAMP

This invention relates generally to lamps such as are used for flood lighting an area.

A principal object of the present invention is to provide a retractable flood lamp designed particularly for being flush mounted within the ground so to be out of the way, but which in an operative use may be upwardly extended above the ground surface so to illuminate an area, after which it may be again retracted.

Another object of the present invention is to provide a retractable flood lamp designed particularly for use at airports, and wherein with the lamp assembly mounted between aircraft such as fighters in normal parking rows, this lamp assembly can fly left side of one aircraft and a right side of adjacent aircraft.

Another object of the present invention is to provide a retractable flood lamp which is particularly suitable in many areas where lighting is required but pole mounted lamps are impractical.

Another object is to provide a retractable flood lamp which can be mounted on aircraft carriers and other ships' decks, and which will be flushed when not in use.

Another object of the present invention is to provide a retractable flood lamp which can be installed on ramps of airport terminals so to allow passengers to see from an to terminal buildings, and which will also be useful to ground crew use.

Still another object is to provide a retractable flood lamp with which certain alterations can be used upon a home lawn, a patio or swimming pool and the like.

Other objects of the present invention are to provide a retractable flood lamp which is simple in design, inexpensive to manufacture, rugged in construction, easy to use and efficient in operation.

These and other objects will become readily evident upon a study of the following specification and accompanying drawings wherein:

FIG. 1 is an exploded perspective view of the units comprising the present invention.

FIG. 2 is a side elevation view thereof with the carriage in an above ground position, and

FIG. 3 is a side elevation view of an actuator comprising a component of the present invention.

Referring now to the drawings in detail, there is shown a retractable flood lamp according to the present invention wherein there is a reflector 1 and a lamp box top 2 of a lamp box 3. A plurality of light bulb sockets 4 are positioned on opposite sides of the lamp box between which there are supported a plurality of electric light bulbs 5. The opposite sides of the lamp box are outwardly rounded as shown in FIG. 1 and a washer with friction cup is positioned on each outer side thereof. An electric circuit housing 7 is located in the lower portion of the lamp box, and a glass lamp cover 8 is located on a further wall of the lamp box 3 so the light rays from the lamps may project outwardly of the lamp box. A nut 9 is welded to the interior of the opposite outwardly rounded side walls so as to engage a bolt 10 that is passed through a washer 11 and through a side wall 12 of a carriage 13, the light box being hidden between the walls 12 of the carriage.

FIG. 1 shows that the reflector 1 is positioned against the upper side of the lamp box top for reflective purposes. As shown in FIG. 1 of the drawing, the carriage 13 has a pair of downwardly extending walls 14 extending downward below a floor 15 upon which the lamp box 3 is positioned. A pair of openings 16 are provided in each wall 14 for the purpose of receiving there through a bolt 17 upon which there is mounted rotatably free a roller 18, the roller 18 being slideable within a roller tract 19 of the lower box 20. As shown in FIGS. 1 and 2, for purpose of smooth operation of the roller in the roller tract, there is fitted on bolts 17 a pair of washers 21 between which there is a compression coil spring 22 located on one side of the vertical wall 14 while on the opposite side of the wall 14 there is mounted washers 23 between which there is a compression coil spring 24, the assembly being secured by means of a nut 25 and the bolt 17.

The lower box 20 includes an outwardly extending flange around the upper edge thereof as shown at 27 for purposes of flush mounting with any ground surface. In the bottom of the box 20 there is a cross configured lower wall 28 upon which there is a bottom actuator end mount 29 comprised of two elements in between which there may be fitted one end of an actuator 30 shown in FIG. 3. This actuator is provided with an opening 31 in one end thereof for being fitted on a bolt 32 passed through openings 33 in the mounts 29 and which is secured by means of a washer 34, and a nut 35 secured by means of a carter key 36. The opposite end of the actuator 30 has an opening 37 receiving a bolt 38 and the flange opening 39 in an upper actuator end mount 40 secured to the under side of the floor 15 of the carriage 13. The bolt 38 is then fitted with a nut 41 and secured by a carter key 42.

As shown in FIG. 2 of the drawing, the actuator 30 has an electric wire connected there to, thus indicating that electrical energy is applied there to so to drive an electric motor contained there within.

The actuator 30 includes an actuator shaft 43 fitted through a washer 44 which has a nut 45 welded on the washer. A sleeve 46 is fitted over one end of the actuator, the sleeve containing a coil spring 47, the opposite end of the spring bearing against a washer 48 having nut 49 secured thereto by a weld, the nut supporting a bearing containing the opening 37 through and through which the bolt 38 passes and which will now be evident that the actuator serves to vertically move the carriage above and below a flush mount with the ground surface.

To mount this invention into the ground, a hole larger than the size of the housing or lower box 20 would be dug in the ramp and the insides cemented to prevent dirt caving in on the unit. The hole, being larger than the box 20, will allow for natural water drainage. The flange would prevent the unit from falling to low below the ground surface and the flange also serves for securing the unit in the ground. Limit switches may be mounted externally of the actuator to limit the actuator travel and to turn the light on and off as desired. Limit switch is mounted in the actuator which utilizes the extendable actuator hot wire to turn the light on and off.

It is to be noted that the coil springs 22 and 24 illustrated in FIG. 1, and the coil spring 47 illustrated in FIG. 3 have a second purpose of absorbing some of the shock in case the unit is hit while in an extended position.

Other uses for the present invention are for mounting the unit at a slight angle in a garage floor or a lubrication room of a service station under the lubrication racks. The present invention could also be used for flood lighting of signs, billboards and the like. Other uses for the invention would be for picnic areas, parks, sidewalks, driveways and other areas which require lighting in security of buildings or the like.

What I now claim is:

1. In a retractable flood lamp, the combination of an assembly comprised of a lower box, said lower box having a flange around the upper edge thereof, said flange extending outwardly and being secured at the level of the ground, a carriage vertically moveable within said lower box, a lamp box being mounted on said carriage, said lamp box containing a plurality of lamps for directing light rays outward therefrom, said lamp box being provided with a reflector on the side thereof opposite to said lamps, one side of said lamp box comprising a transparent glass window through which said light shines, another opposite end of said carriage and a roller tract within which said said lamp box in placed, said carriage comprising a horizontal floor having said opposite side walls extending upwardly from opposite ends of said floor, said floor having a pair of downward projecting walls on the underside thereof, said said downwardly extending walls each supporting a pair of bolts therethrough, each said bolt supporting rotatably freely thereon a roller.
2. The combination as set forth in claim 1, wherein said lower box is provided with a plurality of vertically extending roller tracks, each one of said rollers being vertically slideable within one of said roller tracks, and a lower end of an actuator being pivotally mounted freely to a bottom wall of said lower box, the opposite end of said actuator being pivotally mounted freely to an underside of said carriage floor.