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2,734,997

DEMOUNTABLE REMOTE CONTROLLED DIRIGIBLE LIGHT

Filed Oct. 23, 1952

2 Sheets-Sheet 1

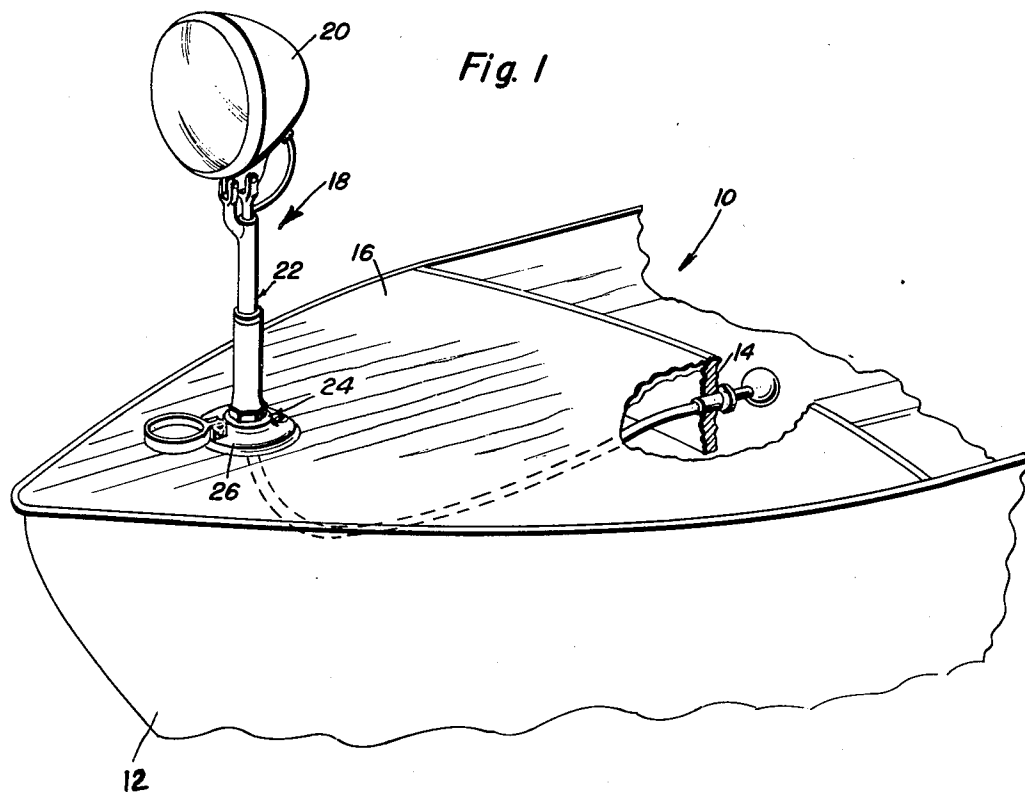


Fig. 1

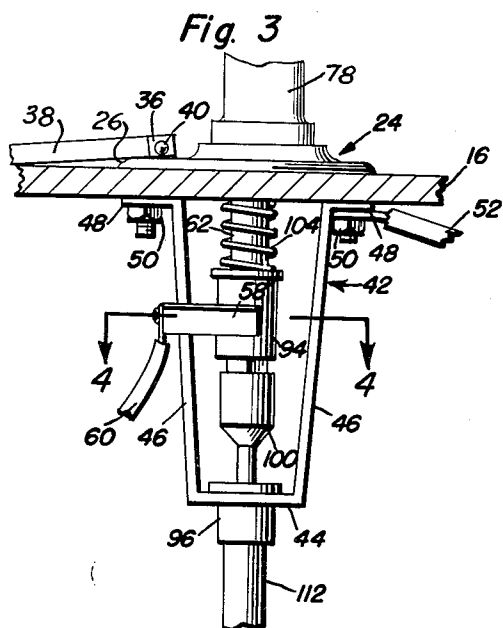


Fig. 3

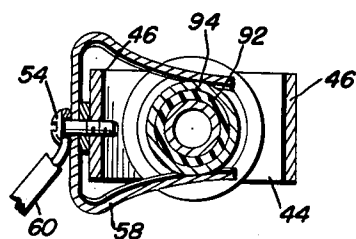


Fig. 4

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2 Sheets-Sheet 2

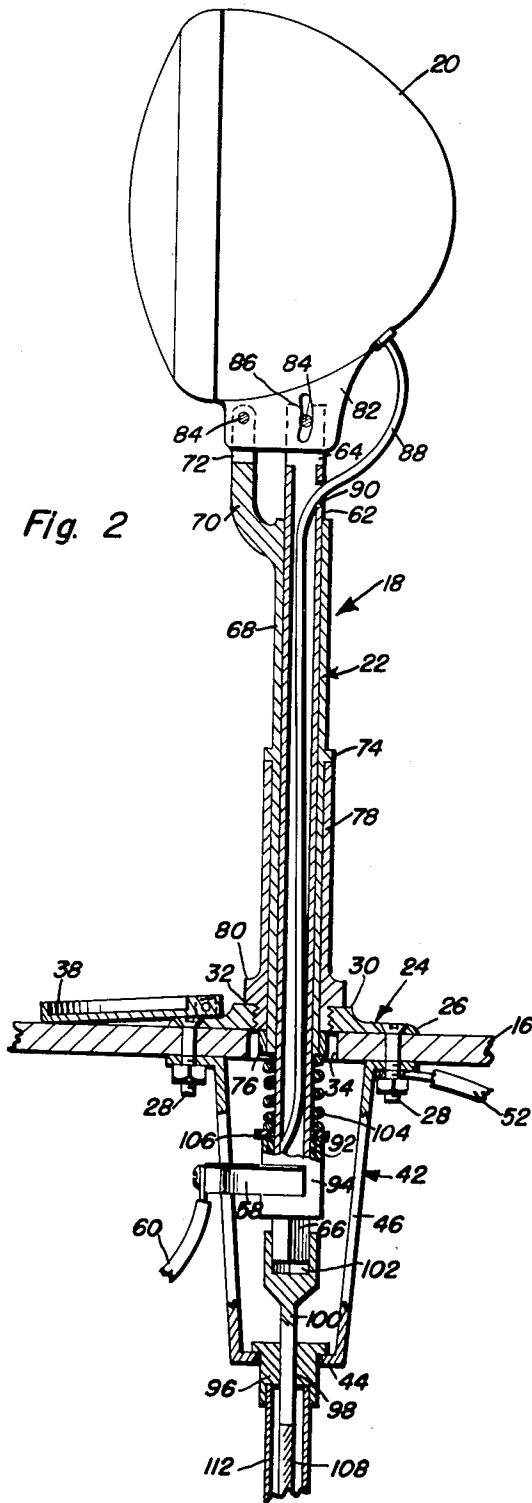


Fig. 2

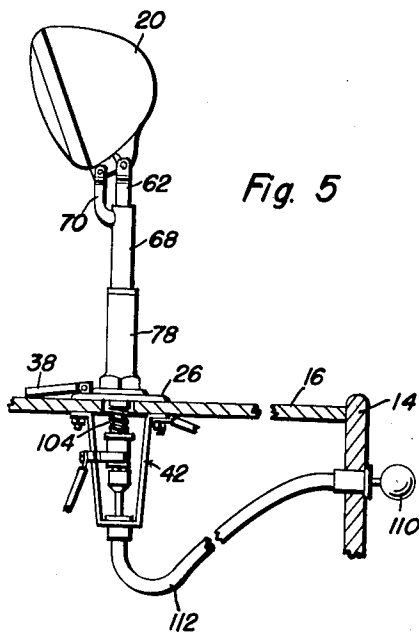


Fig. 5

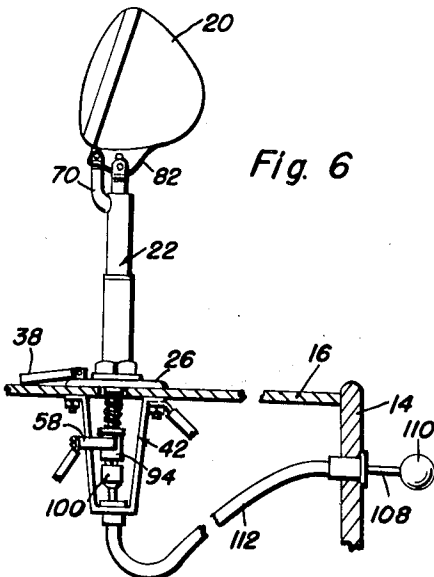


Fig. 6

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DEMOUNTABLE REMOTE CONTROLLED DIRIGIBLE LIGHT

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8 Claims. (Cl. 240—61.6)

The present invention relates to lamps and more particularly relates to a demountable lamp construction that is adapted for general use on piers, docks, small boats and other structures wherein it is not desired or feasible to mount permanent lighting fixtures.

It is the primary object of the invention to provide a demountable light that may be attached and detached within a few seconds without the connection or disconnection of any wires.

It is a further object of the invention to provide a light of the above-described character that will make electrical contact immediately upon attachment and that when detached will leave no obstruction on the deck of a boat or other surface upon which the same is mounted.

Another important object of the present invention is to provide a remote control light in which direction of the beam of the light may be varied within wide limits without the use of gears or the like.

A still further object of the present invention is to provide a demountable, remote control light including a novel mounting bracket assembly in which the mounting bracket itself serves as the electrical contact for the light and in which the light is provided with a novel supporting standard construction which permits the variance in the direction of the beam of the light without necessitating the use of gears as is set forth in the aforementioned object.

A last object of the invention to be mentioned specifically is the provision of a demountable, remote control light having a mounting bracket assembly that is easily and simply protected from the elements upon removal of the light and its associated standard from the mounting bracket assembly.

These, together with various ancillary objects and features which will later become apparent as the following description proceeds, are obtained by this device, a preferred embodiment of which is shown by way of example only in the accompanying drawings, wherein:

Figure 1 is a perspective view of the demountable light of the present invention mounted on the deck of a small boat;

Figure 2 is an enlarged side elevational view of the demountable light and its associated mounting bracket assembly taken partly in cross-section to show the details of construction thereof;

Figure 3 is an enlarged side elevational view of the mounting bracket assembly of the demountable light of the present invention, with the lower end portion of the demountable light in position;

Figure 4 is a cross-sectional view taken substantially along section line 4—4 of Figure 3;

Figure 5 is a side elevational view of the demountable light with parts of the boat deck being shown in cross-section and disclosing the remote control means whereby the direction of the beam of the light may be varied; and

Figure 6 is a view similar to Figure 5 showing the di-

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rection of the beam of the light pointing in a direction different from that shown in Figure 5.

Referring to the accompanying drawings in detail, it will be noted that like reference characters are utilized to designate similar parts throughout the various views.

The numeral 10 designates generally the front end of a small boat, which serves as a convenient, but by no means the only, environment upon which the demountable light of the present invention is to be utilized. The boat 10 includes a hull 12, instrument panel or dashboard 14 and a forward deck 16 on the central portion of which the demountable light construction 18 of the present invention is mounted.

The demountable light construction 18 itself comprises generally three elements, namely, the lamp or light itself 20, which may be, as is shown in the preferred embodiment, in the form of a suitable "spot" or "search" light, a standard 22 and a mounting bracket assembly 24.

Referring first to the mounting bracket assembly 24, it will be noted that the same consists of an annular disk 26 secured to the top surface of the deck 16 by means of fasteners 28. The central portion of the disk 26 is thickened to form an upstanding boss 30 having an internally threaded bore 32 therethrough aligned with an aperture 34 in the deck 16. Spaced, parallel upstanding lugs 36 are secured to the upper surface of the disk 26 adjacent the raised boss 30 and a cup-shaped closure plate 38 for embracing the boss 30 and closing the aperture for bore 32 therethrough is hinged to the lugs 36 by means of a hinge pin 40.

Also forming part of the mounting bracket assembly 24 and secured to the under-surface of the deck 16 of the boat 10 is a U-shaped yoke or mounting bracket 42 including a web 44, side flanges or legs 46 and feet 48 at the free ends of the legs 46. The fastening elements 28 extend through the deck 16 and through apertures in the feet 48 of the mounting bracket 42. Nuts 50, threaded on the lower ends of the fasteners 28, secure the feet 48 and consequently, the mounting bracket 42 to the under-surface of the deck 16. An electrical conductor 52, extending from a source of electricity such as a storage battery or the like (not shown), is secured between one of the feet 48 and an associated nut 50 and thereby grounded on the frame of the mounting bracket 42. On one of the legs 46 is mounted, by means of screw 54, a resilient U-shaped metal strap 58 having its free ends disposed between the legs 46. A second electrical conductor 60 extending from the source of electricity (not shown) is attached to the screw 54 in electrical contact with the resilient metal strap 58 for a purpose that will later become apparent.

The standard 22 comprises a central tubular member or tube 62 having an open, bifurcated upper end 64 and a closed polygonal-shaped, preferably square, lower end 66. When the light is mounted on the bracket assembly 24, the upper end of the central tubular member 62 is disposed above the deck 16 and the bracket assembly 24 while the lower end of the central tubular member 62 is disposed beneath the deck 16 between the legs 46 of the bracket 42 with the intermediate portion of the tubular member 62 extending loosely through the aligned bore 32 and aperture 34. Surrounding the central tubular member 62 in concentric relation therewith is a second tubular member 68 having open upper and lower ends. This second tubular member 68 is somewhat shorter than the central tubular member 62 and terminates at its ends short of the ends of the central tubular member 62. A light supporting post 70 projects upwardly from the upper end of the second tubular member 68 in longitudinally offset relation to the central tubular member 62. The upper end of this post 70 is bifurcated as at 72. Inter-

mediate the ends of the second tubular column or member 68 is formed an outwardly, radially extending annular flange 74 while a clamping ring or bushing 76 is secured to the lower end of the tubular member 68.

Concentrically surrounding the tubular column 68 between the flange 74 and the bushing or clamping ring 76 is a sleeve 78 having a nut 80 formed integrally therewith adjacent the lower end and having an enlarged externally threaded portion at its lower end threaded into the bore 32 of the boss 30 of the disk 26.

It is to be noted that the upper and the lower ends of the sleeve 78 abut the flange 74 and clamping ring 76 of the second tubular member 68 whereby longitudinal movement of the tubular member 68 with respect to the sleeve 78 is prohibited, rotational movement between these members being, however, permitted. It is also to be noted that the central tubular member 62 of the standard 22 is longitudinally slidable with respect to the sleeve 78 and the second tubular member 68. Thus, both of the members 62 and 68 are rotatable with respect to the sleeve 78 while the central tubular member 62 is longitudinally slidable with respect to both the second tubular member 68 and the sleeve 78.

The light 20 has a flange 82 depending therefrom, which flange is seated between the furcations of the bifurcated ends 72 and 64. Pivot pins 84 extending between the furcations of the bifurcated ends 72 and 64 mount the light 20 on the tubular members 62 and 68 respectively. At the connection of the flange 82 with the central tubular member 62, the flange is provided with an arcuate slot 86 whereby the light 20 will be vertically pivoted about the post 70 upon longitudinal movement of the tubular member 62.

A wire or conductor 88 extends from the light 20 through an aperture 90 in the tubular member 62 to the lower end of this member. At the lower end of the member 62 and concentrically surrounding the same, is an insulating sheath 92. Concentrically surrounding and secured to this sheath 92 is an annular, metal contact plate 94 to which the terminal end of the conductor 88 is attached. At all times when the light is mounted, the contact plate 94 will remain in contact with the resilient strip 58 disposed between the legs 46 of the bracket 42.

By this arrangement, when it is desired to mount the light, the standard 22 is simply inserted through the aligned bores 32 and 34 and secured thereto by means of the sleeve 78. Since upon such insertion of the standard 22, electrical contact is made between the contact strip 58 and the contact plate 94, the light 20 is obviously energized and ready for use. By virtue of the fact that the conductor 88 is disposed entirely within the tubular member 62 with the contact plate 94 forming a portion of the member 62, there are no wires to connect or disconnect in the mounting or demounting of the light from the mounting bracket assembly 24.

To remotely control the lamp or light 20 from the dashboard or instrument panel 14 of the boat 10 without the use of gears, a plug 96 having a central bore 98 therethrough is securely mounted on the web 44 of the bracket 42. A socket member 100 extends rotatably through the bore 98 of the plug and has an upwardly opening polygonal-shaped, preferably square, recess in its upper end receiving the similar-shaped lower end 66 of the central tubular member 62 of the standard 22. To urge the lower end 66 of the tubular member 62 into seating engagement in the recess 102, a coil spring 104 surrounds the tubular member 62 and seats at its upper and lower ends against the lower end of the outer tubular member 68 and an insulating washer 106 surrounding the upper surface of the contact plate 94 tending to urge the tubular member 62 downwardly relative to member 68.

A flexible cable 108 is secured to or coextensive with the lower end of the socket member 100 and extends through the dashboard or instrument panel 14 of the boat, at which point a knob, or other handle means 110,

is provided on the cable. Protecting sheath or shield 112 surrounds the flexible cable or shaft 108 and protects the same from the elements.

To vertically pivot the light 20, the control knob 110 is pushed inwardly toward the dash 14 thereby pressing the tubular member 62 upward against the weight of the light and pressure of spring 104, and pivoting the light 20 in such a manner that the direction of the beam therefrom will be downwardly inclined as seen in Figure 5. To incline the beam of the light upwardly, the control knob 110 is simply pulled away from the dash 14, causing the tubular member 62 to be urged downwardly relative to member 68 fixed with sleeve 78 by the action of the spring 104 to be pressed further downward toward the web 44 of the bracket 42 as seen in Figure 6. To move the light 20 to the right or left, regardless of the vertical angle at which the direction of the beam is pointed, the control knob 110 is simply twisted to the right or left, which twisting movement will be imparted to the socket member 100 and consequently to the lower end of the standard 62. Since both the standard 62 and the standard 68 upon which the light 20 is mounted are free to turn with respect to the attaching sleeve 78, the rotational movement imparted to the member 62 will likewise be imparted to the light 20.

From the foregoing description, the construction and operation of the invention are believed to be readily apparent. However, since numerous modifications and changes will readily occur to those skilled in the art after a consideration of the foregoing specification taken in conjunction with the accompanying drawings, it is not desired to limit the invention to the exact construction shown and described. But, all suitable modifications may be resorted to falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A demountable light construction comprising a light, a mounting bracket assembly and a standard, said standard being removably mounted in said bracket assembly and said light being mounted on said standard, electrical contact means on said bracket assembly directly contacting a portion of said standard to energize the light, said mounting bracket assembly comprising a disk having a central aperture therein, and a bracket secured to and depending below said disk, said standard consisting of longitudinally extensible outer and inner tubular members, means securing said outer member to said disk, said inner member extending through said disk and terminating within said bracket, said light being pivotally attached at spaced points to upper ends of said outer and inner tubular members, a remote control means connected to said standard and said bracket assembly for pivoting the light about the standard and rotating the light and standard, said remote control means including a socket member mounted for longitudinal and rotational movement in said bracket, the lower end of said inner member being seated in said socket member, resilient means on said standard yieldingly urging said inner member into seating engagement with said socket member.

2. A demountable, remote control light construction comprising a light, a mounting bracket assembly, a standard and a remote control means connected to said standard and said mounting bracket assembly, said standard including an outer tubular member rotatably mounted on said bracket assembly and an inner tubular member longitudinally movable with respect to said outer member, a flange depending from said light and being pivotally connected to the upper ends of said outer and inner tubular members, said flange having an arcuate slot at its connection to said inner tubular member to form a sliding pivot, a socket member longitudinally and rotatably secured to said mounting bracket assembly, the lower end of said inner tubular member seating in said socket member for movement therewith, spring means urging said inner tubular member into seating engagement with said socket member, said remote control means including

an actuating shaft connected to said socket member and terminating remotely therefrom, longitudinal movement of said socket member causing said light to swing vertically about its pivotal connection to said outer standard and rotation of said socket member causing said light to swing horizontally.

3. A demountable light construction comprising a light, a mounting bracket assembly and a standard, said standard comprising longitudinally extensible outer and inner tubular members, means non-slidably and rotatably securing said outer member to said assembly, and actuating means connecting said inner member to said assembly for sliding and rotatable movement therein, said light being pivotally attached at spaced points to the upper ends of said outer and inner tubular members, said actuating means tilting said light upon sliding movement of said inner member and rotating said light upon rotation of said inner member, an annular electrical contact sleeve mounted on and surrounding the lower end of said inner member, an insulating sheath spacing said sleeve and inner member from one another, a cable electrically connecting said light and said sleeve, a contact member mounted on said assembly freely slidably engaging said sleeve to retain electrical contact therewith upon sliding and rotary movement of said inner member, said actuating means including a non-circular socket, the lower end of said inner tubular member being of non-circular configuration and fitting removably in said socket.

4. The combination of claim 3, and a control member extending from said socket rotating and sliding the same.

5. In a demountable light construction including a mounting bracket assembly and a standard removably mounted in the bracket assembly, said bracket assembly including a disk having a securing aperture therein, said standard including a sleeve mounted in the apertured portion of said disk, a first tubular member rotatably supported in said sleeve and including an intermediate flange portion rotatably engageable on an upper edge portion of said sleeve, an upper end portion of said tubular member being pivotally connectable to the light construction, the lower end of said tubular member extending through said sleeve in relatively rotatable relation thereto, a central tubular member extending reciprocably and rotatably through said first tubular member and sleeve, the central tubular member including an upper end portion extending through the sleeve and first tubular member and pivotally connectable to the light construction in spaced relation to the connection thereof with the first tubular member, the lower end portion of the central tubular member extending through the first tubular member, and resilient means extending between the lower ends of the tubular member urging them apart.

6. In a demountable light construction including a mounting bracket assembly and a standard removably

mounted thereon, said bracket assembly including a disk having a securing aperture portion therein, said standard including an external sleeve mounted in said securing aperture, said standard including outer and inner telescoping sections extending through said disk aperture and rotatable in said sleeve, the outer section including an intermediate flange portion rotatably engaged on a top edge portion of said sleeve, said inner section having its lower end portion projecting below the lower end portion of said outer section, resilient means extending between the lower ends of said telescoping sections urging them apart, the mounting bracket including a lower support portion extending downwardly from said disk, socket support means carried on the lower support portion of said bracket, the lower end portion of said inner section being engageable with the socket support means on said mounting bracket.

7. In a demountable light construction as set forth in claim 6 including an outer contact plate mounted on the lower end portion of the inner section, an insulating sheath separating said plate and said inner section from each other, an electrical conduit in said inner section in electrical contact with said plate, a resilient contact clip mounted on said lower support portion of the mounting bracket releasably engaging said plate, said resilient means reacting between said outer section and said plate tending to urge them apart, and a second electrical conduit means connected to said resilient contact clip providing a circuit to said light construction.

8. In a demountable light construction including a standard comprising slidably telescoping outer and inner sections, said outer section having an annular flange therearound intermediate its ends, a sleeve received over said outer section having its upper end rotatably engaging said flange, an enlargement on the lower end of said inner section, means rotatably securing the outer section against reciprocable movement within said sleeve, resilient means reacting between said outer section and enlargement on the lower end of the inner section urging said sections away from each other, and a mounting bracket assembly detachably supporting said standard and sleeve, said bracket assembly including a boss portion having a threaded bore therethrough, said sleeve having a threaded lower end threadedly received in said threaded bore.

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