Aug. 8, 1961 E. C. KIEKHAEFER 2,995,650

RUNNING LIGHT FOR AN OUTBOARD MOTOR

Filed May 12, 1959 2 Sheets-Sheet 1

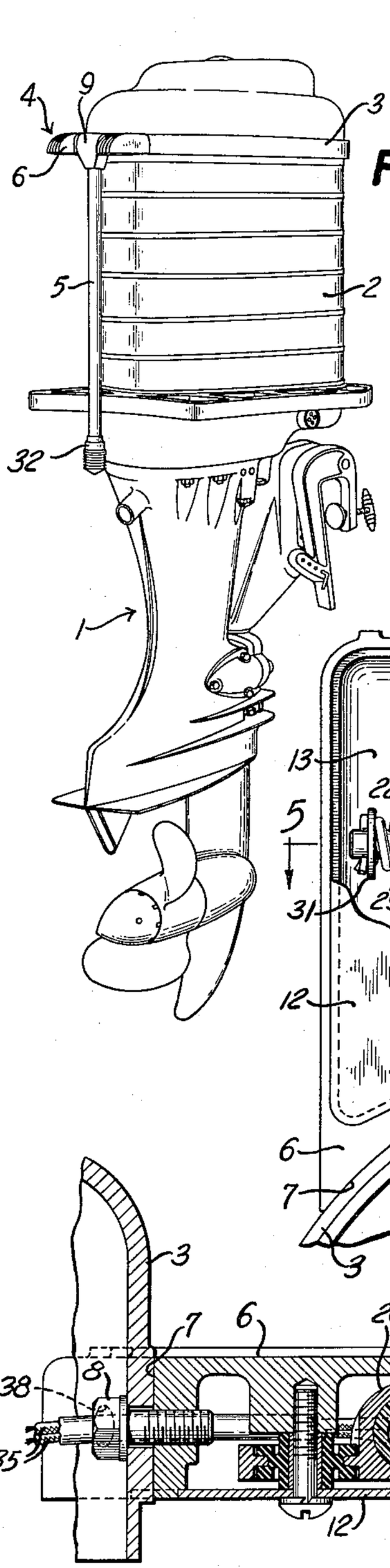

FIG. 1.

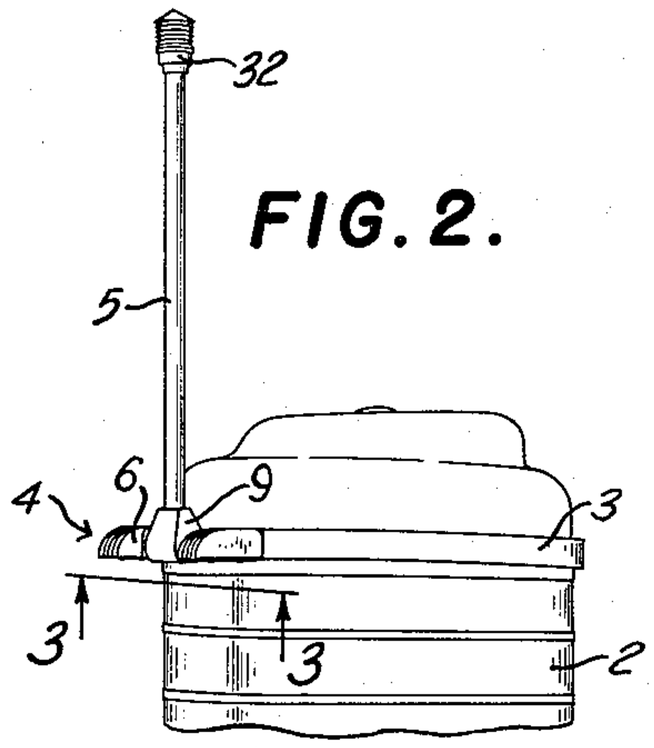

FIG. 2.

FIG. 3.

FIG. 4.

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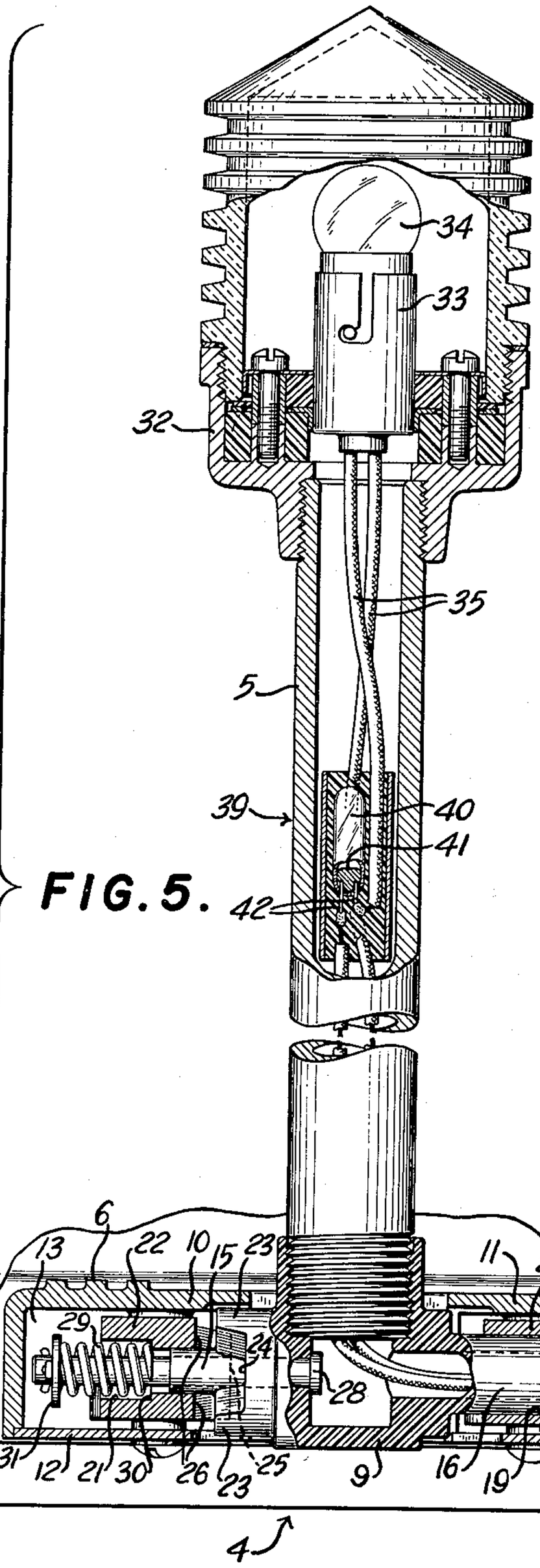


FIG. 5.

FIG. 6.

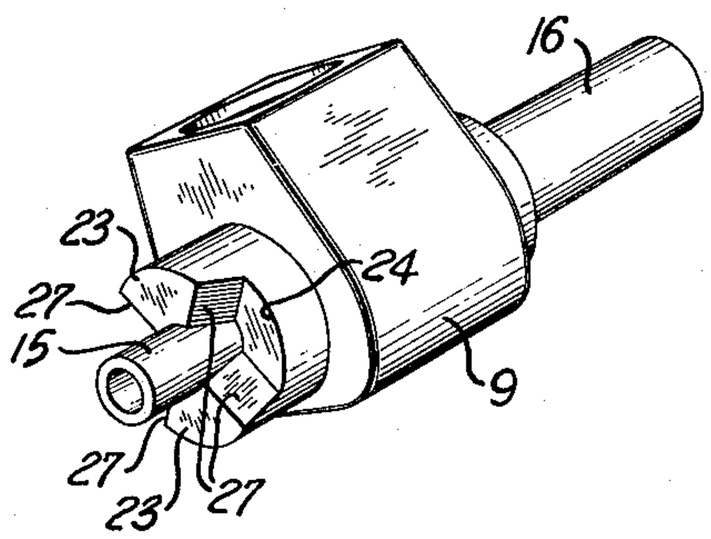
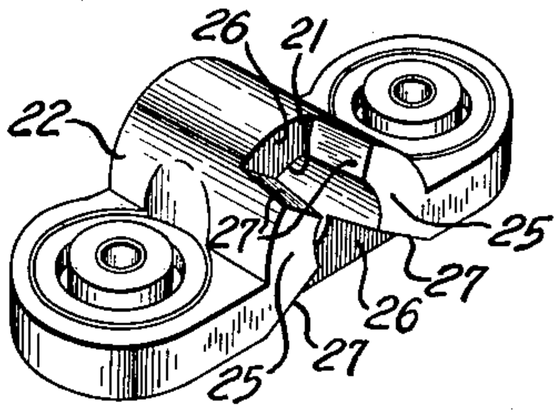


FIG. 7.



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RUNNING LIGHT FOR AN OUTBOARD MOTOR

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This invention relates to a warning or running light assembly for an outboard motor.

According to the invention, a warning or running light assembly is secured to the outboard motor and forms a part thereof. The light assembly comprises a tubular member having one end thereof tiltably mounted within a support means secured to the cowl of the motor.

The tubular member may be tilted between an up or running position and a down or inoperative position and cam means associated with the support means is adapted to lock the tubular member in the desired position. The opposite end of the tubular member carries a socket member for a light bulb which is electrically connected to a source of power.

The light circuit includes switch means adapted to close the circuit to turn on the light when the tubular member is tilted to the running position and open the circuit to turn off the light when the tubular member is returned to its down or inoperative position.

The drawings furnished herewith illustrate the best mode of carrying out the invention as presently contemplated and set forth hereinafter.

In the drawings:

FIG. 1 is a perspective view of an outboard motor showing the running light assembly of this invention with the light in the down or "off" position;

FIG. 2 is a partial perspective of an outboard motor showing the light assembly of this invention with the light in the up or "on" position;

FIG. 3 is an enlarged plan view with parts broken away looking generally on line 3—3 of FIG. 2;

FIG. 4 is a sectional view taken generally on line 4—4 of FIG. 3;

FIG. 5 is a sectional elevation of the light assembly taken generally on line 5—5 of FIG. 3;

FIG. 6 is a perspective view of the rotatable member which receives the tubular light mast and shows the cam means thereon for locking the light mast in a given position; and

FIG. 7 is a perspective view of one of the bearing members for the rotatable member of FIG. 6 and shows the opposed cam means for locking the light carrying member in a given position.

Referring to the drawings, the outboard motor 1 for propelling a boat, not shown, is provided with a cowl 2 including an upper rigid cowl portion 3. The running light assembly 4 of this invention is mounted rearwardly of the motor on cowl portion 3 as shown in FIGS. 1 and 2.

The running light assembly 4 includes a tubular mast 5 which is pivotable relative to the U-shaped support housing 6 between a down or "off" position shown in FIG. 1 and an up or "on" position shown in FIG. 2. The support housing 6 is provided with an arcuate forward surface 7 which is contoured to seat generally flush against cowl portion 3 and is secured to the cowl by means of bolts 8 as shown.

The pivotable hollow supporting member 9 for mast 5 is mounted between the transversely spaced, rearwardly extending portions 10 and 11 of housing 6. Housing portions 10 and 11 are formed with cavities therein which when closed by plates 12 provide the spaced bearing chambers 13 and 14. The opposed and aligned hollow stub shafts 15 and 16 on the mast supporting member 9 extend through transversely aligned openings 17 and 18 in housing portions 10 and 11 and into the respective chambers 13 and 14.

The stub shaft 16 is journally received within bore 19 of bearing element 20 secured in chamber 14. The opposite stub shaft 15 is journally received within stepped bore 21 of bearing element 22 secured in chamber 13. The mast 15 is pivoted manually within the bearing elements for selective disposition in the up or down positions.

Means are provided between the pivotable support member 9 and bearing element 22 for selectively locking the light mast 5 in the up and down positions, respectively. For this purpose, diametrically opposed angular cam projections 23 with cam recesses 24 therebetween are formed integrally on the mast support member 9 radially outwardly of stub shaft 15.

The cam projections and recesses of member 9 are adapted to interlock in two positions with oppositely arranged cam projections 25 and cam recesses 26 formed integrally with bearing element 22 radially outwardly of bore 21 to secure the light mast 5 in either the up or down position. The angularly spaced surfaces 27 on the cam projections 23 and 25 diverge inwardly of the corresponding member so that the interlock between the members 9 and 22 may be selectively disrupted upon manual rotation of support member 9 to its other interlocked position.

To maintain the cam interlock between member 9 and element 22 and thus secure the mast 5 selectively in the up or down position, a pin 28 extends outwardly through the hollow stub shaft 15 and through the stepped bore 21 of bearing element 22 with the inner end of the pin being anchored within the support member 9. A helical spring 29 is disposed around the pin 28 and extends between the shoulder 30 formed within the stepped bore 21 and a stop plate 31 carried by the pin. The spring 29 constantly urges the mast support member 9 toward bearing element 22 and thus holds the interlocking cam surfaces in engagement.

The end of mast 5 opposite from the support member 9 is provided with a socket housing 32. The socket 33 is secured within the housing 32 and is adapted to receive the light bulb 34 therein.

The socket 33 is connected to a source of power, not shown, by means of a pair of wires 35. In the embodiment shown in the drawings, the wires 35 are disposed within mast 5 and extend through hollow stub shaft 16 of the mast support member 9, chamber 14 of the bearing housing 6, and enter the motor cowl 2 for connection to a source of power 36 through aligned openings 37 and 38 provided respectively in the bearing housing 6 and the cowl portion 3.

To provide "on" and "off" switch control for the light bulb 34, one of the wires 35 is interrupted to receive a mercury switch 39 between the ends thereof. Switch 39 comprises an elongated tubular chamber 40 containing a globule of mercury 41. The chamber 40 is disposed within the mast 5 and extends longitudinally thereof. Oriented in the up position of the mast 5, a pair of switch contacts 42 extend into the lower end of the chamber 40 and are respectively connected to the ends of the interrupted wire 35. In the up position, as shown in FIG. 5, the mercury globule 41 rests in the lower part of chamber 40 and serves to connect the switch contacts 42 completing the circuit through the bulb 34. In the down position of the mast, the mercury globule 41 will rest in the opposite end of the chamber 40 to open the circuit through the light bulb.

In service and when a running light is not required, the mast 5 is secured in the down position by the cam interlock between member 9 and bearing element 22 as shown in FIG. 1. In this position the mercury globule

41 of switch 39 rests in the end of chamber 40 opposite from the switch contacts 42 so that light bulb 34 remains unlighted.

When a running light is desired, the mast 5 is manually pivoted in an upward direction. The initial movement of mast 5 effects sliding between the cam surfaces 27 to disrupt the cam interlock between member 9 and bearing element 22 against the pressure of spring 29. As the mast 5 continues upwardly, the cam projections 23 and 25 slide on each other until the up position is reached when a cam interlock is again effected to hold the mast 5 in position. During this movement of mast 5 the switch chamber 40 carried by the mast is inverted and the mercury globule 41 moves into contact with the switch contacts 42 completing the circuit through the bulb 34. Lighting of the bulb is thus automatic with pivotal movement of the mast to its up or running position.

The action of the cam interlock is similar for downwardly pivotal movement of the mast and the resultant inversion of the mercury switch turns off the light automatically.

Various modes of carrying out the invention are contemplated as being within the scope of the following claims particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

I claim:

1. In a stern light assembly for an outboard motor, mounting means comprising spaced enclosure members adapted for securement to the motor, a bearing member disposed in each of said enclosures and having aligned bores, a mast having opposed shaft portions extending through openings in said enclosures and journaled in the bores of the respective bearing members for pivotal movement of the mast between an up position and a down position, releasable lock means provided between at least one of the bearing members and the mast for retaining the mast in either the up position or down position, an electrical socket carried by said mast and adapted to have a light bulb secured therein, a source of electrical energy, an electrical circuit connecting the socket and source of energy, and switch means carried by said mast and disposed in the circuit for opening and closing the lighting circuit, said switch means being responsive to pivotal movement of the socket carrying mast and being adapted to close upon pivoting the socket carrying mast to an up position to turn on the light and to open upon pivoting said mast to a down position to turn off the light.

2. In a stern light assembly for an outboard motor, a U-shaped bracket member adapted for securement to the motor and including side leg enclosures extending outwardly from the motor, a bearing member disposed in each of the side leg enclosures and having aligned bores, a pivotal member disposed between the side legs of the bracket member and having opposed shaft portions extending through openings in the side leg enclosures and journaled in the bores of the respective bearing members, an elongated tubular mast carried by said pivotal member and being adapted for pivotal movement between an up position and a down position, a pair of diametrically opposed cam projections with cam recesses therebetween provided on said pivotal member radially outwardly from one of the shaft portions for interlocking engagement with cam projections and recesses in opposed relation on the adjacent bearing member, said cam projections and recesses being disposed to provide interlocking engagement corresponding to the up and down positions of the tubular mast, spring means disposed between said members and adapted to retain the interlocking engagement between the members in either of said positions for said mast, an electrical socket carried by the tubular mast and adapted to have a light secured therein, a source of electrical energy, an electrical circuit connecting the socket and source of energy and disposed within the tubular mast, and a mercury switch carried within the tubular mast and disposed in the circuit for opening and closing the lighting circuit, said switch being responsive to pivotal movement of the mast and being adapted to close the circuit upon pivoting the mast to an up position to turn on the light and to open the circuit upon pivoting the mast to a down position to turn off the light.

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