

- [54] **BOAT POLE LIGHT BASE ASSEMBLY**
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- [73] Assignee: **Atwood Corporation**, Lowell, Mich.
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3,517,184 6/1970 Norton et al. 240/7.5
 3,601,758 8/1971 Davidson 339/36 X

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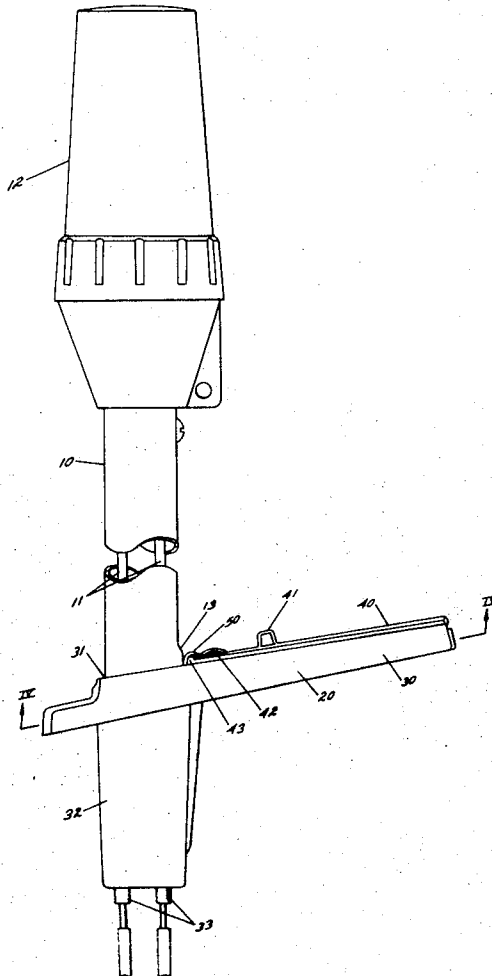
- [52] **U.S. Cl.**..... 240/7.5, 240/52.1
- [51] **Int. Cl.**..... **B63b 45/04**
- [58] **Field of Search** 240/7.5, 52.1; 339/36, 339/37

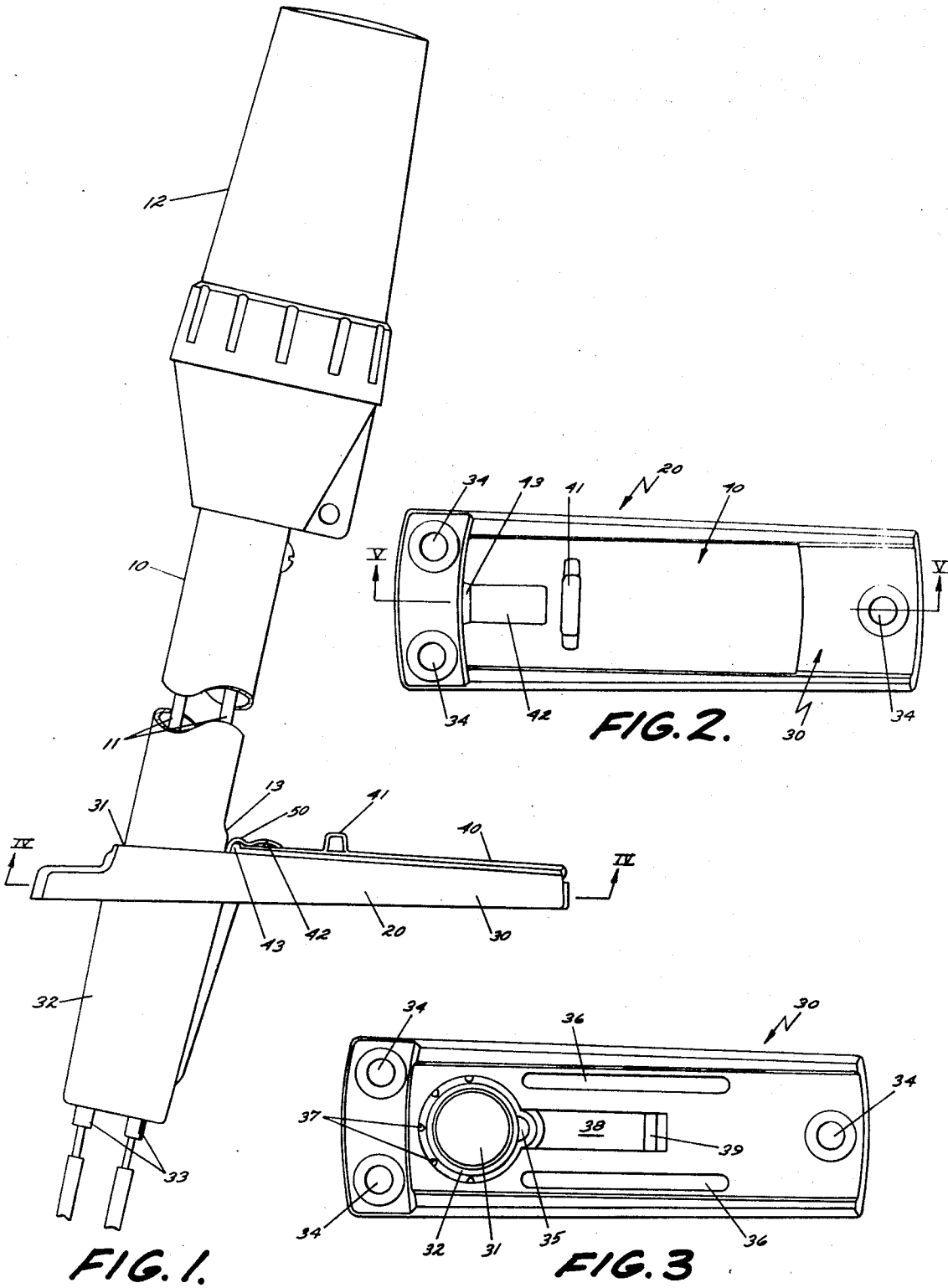
[57] **ABSTRACT**

A base assembly for a removable pole light including a base plate having a bore therethrough for telescopically receiving a light pole. The base assembly has a cover plate which is horizontally slidable over the bore. In the preferred embodiment, the cover plate urges a locking clip member against the light pole to frictionally secure the pole within the base plate bore. When the pole is removed, the cover plate is slidable to cover the bore and is locked in the covering position by the locking clip member.

- [56] **References Cited**
- UNITED STATES PATENTS**
- 2,999,149 9/1961 Cook, Jr. 240/7.5
- 3,253,136 5/1966 Fraul. 340/7.5
- 3,427,550 2/1969 Helda et al. 339/36

14 Claims, 10 Drawing Figures





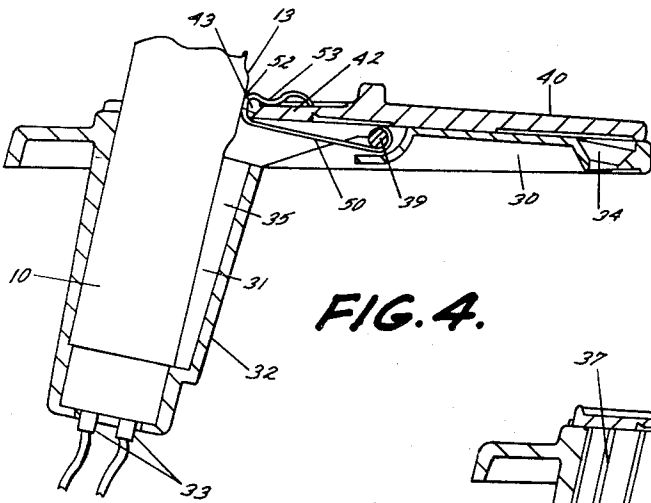


FIG. 4.

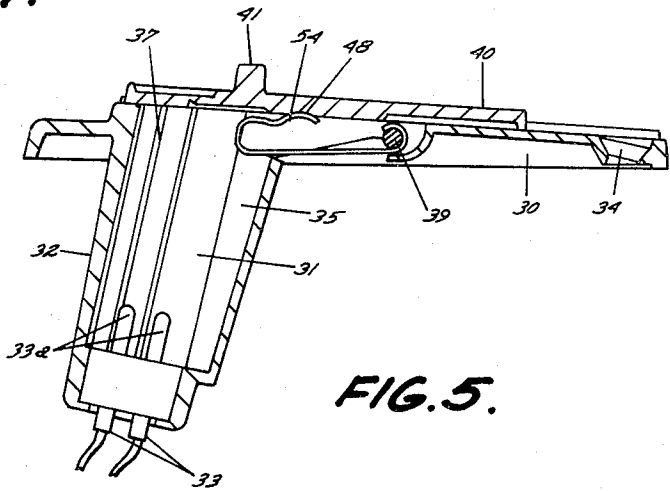


FIG. 5.

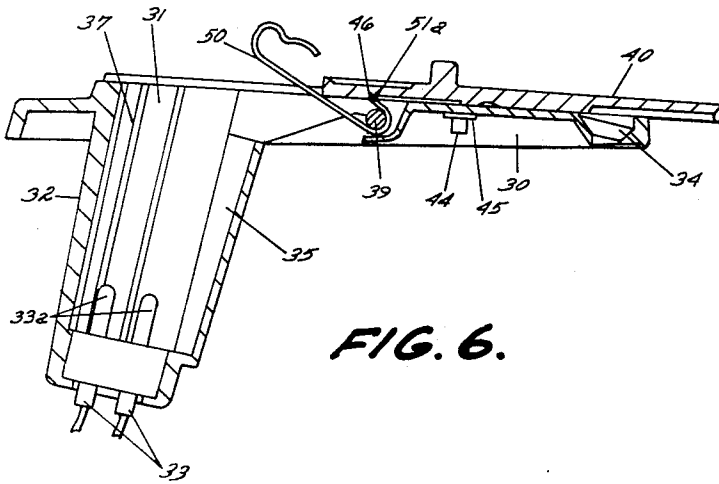


FIG. 6.

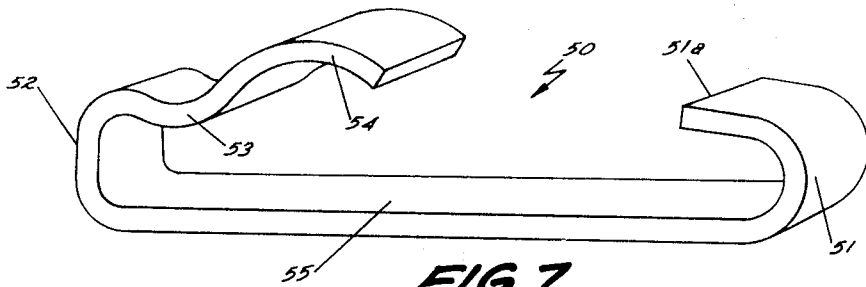


FIG. 7.

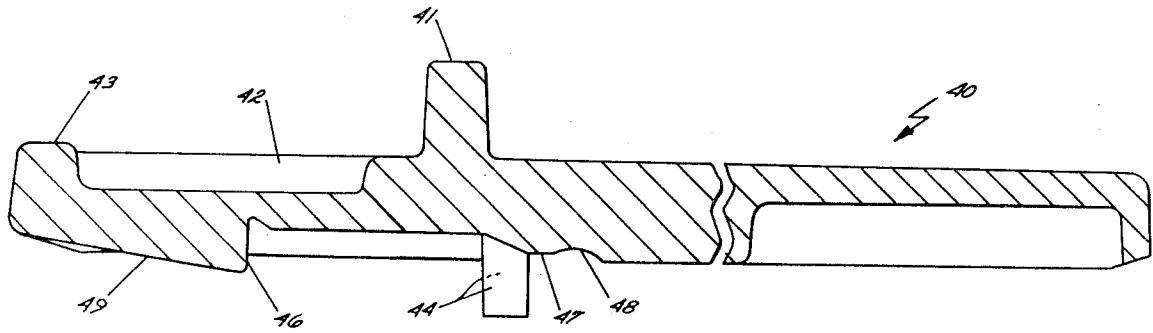


FIG. 8.

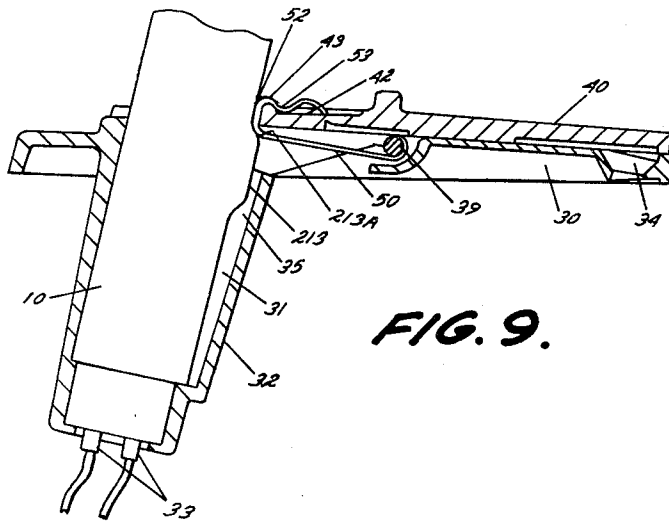


FIG. 9.

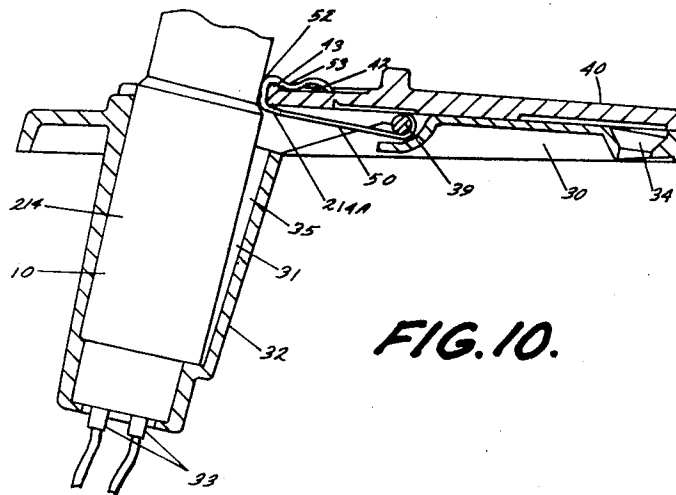


FIG. 10.

BOAT POLE LIGHT BASE ASSEMBLY**BACKGROUND OF THE INVENTION**

This invention relates to pole lights for boats and the like and more particularly, to a base assembly for such a pole light.

Navigational laws generally require motorized watercraft to carry various lights such as a 360° white stern light during navigation at night or at times of limited visibility. These lights are generally affixed to the end of a light pole which is mounted on the deck of the watercraft by means of a base plate or the like. During the day, these light poles are often used for the additional function of providing a mast for a flag. Most of the lights are powered by batteries contained remote therefrom in the watercraft and are connected thereto by means of wires running down through the light pole and through a hole in the boat deck. Although the light pole can be permanently affixed to the deck, it is generally desirable to have the light pole removable when not in use so as to be out of the way when, for example, the boat is being covered for storage or to prevent theft thereof. On some fishing boats, it is required that the bow light pole be removed for swinging a small auxiliary trolling motor over the bow at the place where the bow light pole normally extends.

In the case of these removable light poles, a base plate is generally employed which is permanently affixed to the boat deck and which contains a bore therethrough for receipt of the light pole with electrical contacts at the base thereof leading to a battery source. The base of the light pole has corresponding electrical contacts and upon insertion of the light pole into the bore, electrical contact is automatically made. Although most of these light poles are held in place in the bore of the base plate by a wedge or force fit, some employ locking means such as set screws or, as disclosed in U.S. Pat. No. 3,517,184, issued to Norton et al, on June 23, 1970, entitled CLAMP FOR TELESCOPING SHAFT, a helical spring is employed through which the light pole is inserted to lock the light pole in place.

The removable light poles employed heretofore are beset with several disadvantages. For example, when the light pole is removed, the electrical contacts in the bore in the base plate are left exposed to the elements and to dirt, grease, and the like which can corrode the electrical contacts or interfere with proper electrical contact being made. Also, prior devices have had high profiles which interfered with swinging a motor over it as previously referred to. Furthermore, many of the prior means for holding the light pole within the bore in the base plate have not proven to be satisfactory because of, for example, complicated means of attachment of loosening of the pole when the watercraft is subjected to vibration.

SUMMARY OF THE INVENTION

According to the present invention, there is provided a base assembly for a pole light for removably mounting the pole light to, for example, the deck of a boat. Upon insertion of the pole light in the base assembly, the pole light is firmly held in place and electrical contact with an electrical source is automatically made. Upon removal of the pole light from the base assembly, means are provided for covering the electrical contact in the base assembly to minimize corrosion or fouling

thereof. The base also has a low profile made possible by this invention for minimizing the space it occupies.

The base assembly comprises a base plate having a bore therethrough for telescopically receiving the bottom portion of a pole light. The bore is defined by cylindrical side walls extending below the base plate. A cover plate is mounted on top of the base plate and is horizontally slidable between a position where the cover plate covers the bore and a position where the cover plate exposes the bore. A locking means is associated with the cover plate for securing the bottom portion of a pole light within the bore upon sliding the cover plate toward the pole when the pole is inserted in the bore and for securing the cover plate in position when the cover plate is slid to a position covering the bore. The locking means preferably comprises a clip member pivotally mounted on the base plate so as to be pivotable by the cover plate away from the bore so that the bottom portion of the pole light can be inserted in the bore, toward the pole light to frictionally engage the pole of the pole light when the bottom portion of the pole light is inserted in the bore, and beneath the cover plate for frictional engagement therewith when the cover plate is slid to a position covering the bore. Electrical contacts are provided at the bottom of the bore which make electrical contact with corresponding electrical contacts in the bottom of the pole light when the pole light is inserted in the bore.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevational view of the base assembly of the present invention with a pole light mounted therein;

FIG. 2 is a plan view of the base assembly of the present invention with the cover plate slid to a position covering the base assembly bore;

FIG. 3 is a plan view of only the base plate of the base assembly of the present invention;

FIG. 4 is a side, cross-sectional view of the base assembly as shown in FIG. 1 taken along the lines IV—IV of FIG. 1;

FIG. 5 is a side, cross-sectional view of the base assembly as shown in FIG. 2 taken along the lines V—V of FIG. 2;

FIG. 6 is a side, cross-sectional view of the base assembly of the present invention with the cover plate slid to a position for receipt of a pole light;

FIG. 7 is an enlarged, perspective view of the locking clip member of the base assembly of the present invention;

FIG. 8 is a side, cross-sectional view of the cover plate of the base assembly of the present invention;

FIG. 9 is a side cross-sectional view of a modification of the base assembly of the present invention; and

FIG. 10 is a side cross-sectional view of another modification of the base assembly of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings, FIG. 1 shows base assembly 20 having light pole 10 secured therein. Base assembly 20 comprises base plate 30, cover plate 40, and locking clip member 50. Extending below base plate 30 is a cylindrical bore 31 defined by cylindrical wall 32. The bottom portion of pole light 10 is telescopically re-

ceived within bore 31. In the bottom of bore 31 are electrical contacts 33 which are connected to a remote power source (not shown). With pole 10 inserted in bore 31, electrical contacts 33 make electrical contact with the ends of wires 11 in pole 10 to light the light 12.

The bottom portion of pole light 10 is firmly held in place within bore 31 by frictional engagement with locking clip member 50 as will be discussed more fully hereinafter.

FIG. 2, which is a plan view of the base assembly, shows cover plate 40, which is slidably mounted on base plate 30, in a position covering bore 31. Knob 41 protruding above cover plate 40 is used to manually slide cover plate 40 between its various positions. Screw holes 34 are provided in base plate 30 for receipt of screws or other fasteners for attaching the base assembly to, for example, the deck of a boat.

FIG. 3 is a plan view of base plate 30, cover plate 40 having been removed. Channel track openings 36 are provided in base plate 30 for receipt of a pair of depending legs 44 (FIG. 8) on the underside of cover plate 40. Bore 31 is generally cylindrical with a locater detent portion 35. The bottom portion of light pole 10 is provided with a small protruding locater portion 13 (FIGS. 1 and 4) which registers with portion 35 of bore 31 when the electrical contacts in the bottom portion of pole 10 are in proper alignment with the corresponding electrical contacts 33 in the bottom of bore 31. Also, vertical ribs are provided around the periphery of bore 31 to facilitate a firm and uniform seating of pole 10 within bore 31. Optionally, a water drain hole can be provided in the bottom of bore 31 for drainage of any water getting into bore 31.

In the center of base plate 30 is a rectangular recess 38 which accommodates locking clip member 50 pivotally mounted on rod member 39 as shown in FIGS. 4-6. Rod member 39 is preferably cast as an integral part of base plate 30.

The details of clip 50 are most clearly shown in FIG. 7 which is an enlarged perspective view thereof. Clip 50 includes a first end portion 51 for pivotally mounting clip 50 on the base plate, a connecting portion 55, and a swinging end 52 which is the locking portion. The locking portion is a generally hook-shaped flange, opening in the direction of end 51 above connecting portion 55. The upper portion of the flange is curvilinear with an inwardly bowed portion 53 and an outwardly bowed portion 54, the function of which will be explained hereinafter.

The details of cover plate 40 are most clearly shown in FIG. 8 which is an enlarged side, cross-sectional view thereof. On the top of cover plate 40 is a knob 41 for manually sliding the cover plate. Extending below the cover plate is a pair of depending legs 44 which are slidably received and retained in channel track openings 36 of base plate 30. At the top forward end of cover plate 40 is a lip 43 which rides under bowed portion 53 of clip member 50 to permit bowed portion 53 to seat in recess 42 in the top forward surface of cover plate 40 when cover plate 40 is advanced to the position locking the pole light in place. On the underside of cover plate 40 is inclined surface 49 which rides over bowed portion 54 of clip member 50 when cover plate 40 is advanced over bore 31 when the pole is removed. Also provided on the underside of cover plate 40 are a lip portion 46 for pivoting clip member 50 upwardly

and a recess 48 for receiving bowed portion 54 of clip member 50 to lock the cover plate in position covering bore 31. The function and cooperation of the various elements of clip member 50 and cover plate 40 are explained more fully hereinafter.

In FIG. 6, the base assembly is shown with the cover plate slid rearwardly to a position exposing the entire bore 31 so that pole 10 may be inserted therein. Cover plate 40 is slidably mounted on base plate 30 by means of depending legs 44 extending through channel track openings 36 in base plate 30 with locking means 45, such as lock washers or the like, to secure cover plate 40 to base plate 30 while still permitting sliding movement of depending legs 44 in channel openings 36.

Locking clip member 50, which is a resilient metal such as spring steel, has a curved end portion 51 to pivotally mount clip member 50 around pin 39 in recess 38. As cover plate 40 is slid rearwardly to the position shown in FIG. 6, lip portion 46 depending from the underside of cover plate 40 catches the end 51a of clip member 50 to pivot clip member 50 upwardly to the position shown in FIG. 6. Pole light 10 can then be inserted in bore 31 with protrusion 13 registering with the detent portion 35 of bore 31 to insure proper alignment of the electrical contacts. The ends of electrical contacts 33 are male connecting members 33a which are inserted in corresponding female electrical connecting members (not shown) in the bottom of pole light 10 when protrusion 13 is properly registered in locater detent portion 35.

Once pole light 10 is inserted within bore 31, cover plate 40 is slid forward to the position shown in FIG. 4. The length of clip member 50 is such that as it pivots downwardly, the swinging end 52 will contact protrusion 13 on pole member 50 while clip member 50 is still slightly inclined. The free end of clip member 50 (FIG. 7) is a generally hook-shaped flange opening in the direction of the pivot end. Thus, when end 52 contacts protrusion 13 of pole 10, the inclination of clip member 50 is high enough so that as cover plate 40 is slid forward, the leading end thereof slides into the hook-shaped flange of clip member 50. The top portion of the hook-shaped flange is curvilinear with a first portion 53 bowed downwardly. As the leading edge of the cover plate is slid forward into the hook-shaped flange, portion 53 of clip member 50 resiliently rides over lip 43 of cover plate 40 and seats in recess 42 in the top of clip member 50 to lock cover plate 40 in the forward position with end 52 of clip member 50 being firmly urged against protrusion 13 of pole 10 to firmly secure pole 10 within the base assembly.

When it is desired to remove pole 10 from the base assembly, cover plate 40 is slid rearwardly to the position shown in FIG. 6. An initial firm pull rearwardly on cover plate 40 is sufficient to cause bowed portion 53 to ride back over lip 43 of cover plate 40 to disengage clip member 50 from seat 42.

When it is desired to cover bore 31 with cover plate 40, cover plate 40 is slid forwardly. Since pole 10 is not in bore 31 to contact clip member 50, clip member 50 is free to fall below the top surface of base plate 30 and will rest on the enlarged top detent portion 35 of bore wall 32. When the clip member is in this lowered position (FIG. 5), cover plate 40 can be slid completely over the top of clip member 50 to completely cover bore 31. The end 54 of the free end of clip member 50 is bowed upwardly so that it protrudes slightly and resil-

iently above the surface of base plate 30. The underside of the leading end of cover plate 40 is inclined downwardly at 49 to permit cover plate 40 to ride over portion 54 of clip 50 and not catch on the end thereof. As cover plate 40 is slid to the position shown in FIG. 5, depending lip 47 of the underside of cover plate 40 biases portion 54 of clip member 50 slightly downwardly and as cover plate 40 is slid further to the completely forward position, portion 54 of clip member 50 is resiliently urged to seat upwardly in recess 48 on the underside of cover plate 40 to lock cover plate 40 in the position shown in FIG. 5.

FIG. 9 is a side cross-sectional view of a modification of the base assembly of the present invention in which locator protrusion 213 on pole 10 is positioned lower than protrusion 13 in the embodiment disclosed in FIG. 4 so that the swinging end 52 of clip member 50 contacts not only the shaft of pole 10 but also the upper ledge portion 213a of protrusion 213 when cover plate 40 is slid to lock pole 10 in position. In this modification, the length of clip member 50 must be increased so that end 52 contacts the shaft of pole 10. Because end 52 of clip member 50 is urged not only against the shaft of pole 10 but also against the ledge portion 213a of protrusion 213, a greater resistance to loosening or pulling out of pole 10 results.

FIG. 10 is a side, cross-sectional view of another modification of the base assembly of the present invention similar in principle to the modification illustrated in FIG. 9. As shown in FIG. 10, an enlarged portion 214 is provided at the lower end of pole 10 creating a ledge portion 214a at the upper end of portion 214 so that end 52 of clip 50 is urged not only against the shaft of pole 10 but also against ledge portion 214a to provide a firm locking of pole 10 in position in the manner discussed above with respect to the embodiment disclosed in FIG. 9. Optionally, a locator protrusion (not shown in FIG. 10) could be provided on portion 214 for purposes of aligning the electrical contacts in the bottom of pole 10 with electrical contacts 33.

Thus, the base assembly of the present invention provides a simple and effective means for removably mounting a pole light to, for example, the deck of a boat and for covering the pole-receiving bore and electrical contacts when the pole is removed to minimize the exposure of the bore and electrical contacts to dirt, corrosion, and the like.

While the preferred embodiments of the base assembly of the present invention have been described and illustrated, it will be obvious to those skilled in the art that various modifications can be made without departing from the spirit of the present invention. For example, various locking means could be substituted for the locking clip member disclosed as being preferred such as a coiled spring longitudinally positioned under the slidable cover abutting a depending leg under the cover plate to bias the cover plate in the position covering the bore. The cover plate would then be resiliently urged against the spring to expose the bore for receipt of a pole light and when released would be spring biased against the pole shaft to securely hold it in position. Therefore, the scope of the present invention is deemed to be limited only by the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows.

1. A base assembly for the pole light of a boat comprising:

a base plate operable to be mounted upon and with a substantially unobstructive low profile along its entire length so as to extend along a portion of the deck of the boat, said base plate having a bore therethrough for telescopically receiving the bottom portion of said pole light, said bore being defined by side walls extending below said base plate and the upper surface of the deck of the boat, said side walls providing lateral support for the pole light in an unobstructive posture generally below said base plate and the upper surface of the deck of the boat; and

a cover plate mounted on top of said base plate, said cover plate being horizontally slidable between a position where said cover plate covers said bore to minimize exposure of the bore to the reception of foreign material and a position where said cover plate exposes said bore for the reception of the base portion of the pole light within said bore.

2. The base assembly according to claim 1 which includes locking means associated with said cover plate for securing the bottom portion of said pole light within said bore upon sliding said cover plate toward said pole when said pole is inserted in said bore.

3. The base assembly according to claim 1 which includes locking means associated with said cover plate for securing said cover plate in position when said cover plate is slid to a position covering said bore.

4. The base assembly according to claim 3 wherein said locking means further functions for securing the bottom portion of said pole light within said bore upon sliding said cover plate toward said pole when said pole is inserted in said bore.

5. The base assembly of claim 1 which further comprises electrical contact means in the bottom of said bore which makes electrical contact with corresponding electrical contact means in the bottom of said pole light when the bottom portion of said pole light is inserted in said bore.

6. A base assembly for a pole light comprising:
a base plate having a bore therethrough for telescopically receiving the bottom portion of said pole light, said bore being defined by side walls extending below said base plate;

a cover plate mounted on top of said base plate, said cover plate being horizontally slidable between a position where said cover plate covers said bore and a position where said cover plate exposes said bore; and

locking means associated with said cover plate for securing said cover plate in position when said cover plate is slid to a position covering said bore and for securing the bottom portion of said pole light within said bore upon sliding said cover plate toward said pole when said pole is inserted in said bore, said locking means including a clip member pivotally mounted on said base plate so as to be pivotable by said cover plate away from said bore so that the bottom portion of said pole light can be inserted in said bore, toward said pole light to frictionally engage the pole of said pole light when the bottom portion of said pole light is inserted in said bore, and beneath said cover plate for frictional engagement therewith when said cover plate is slid to a position covering said bore.

7. The base assembly of claim 6 wherein said clip member comprises a first end portion for pivotally mounting said clip member with means engageable by said cover plate for pivoting said clip member, the other end portion of said clip member being a locking portion, said two end portions being connected by a connecting portion; said locking portion comprising a generally hook-shaped flange opening in the direction of said first end portion and above said connecting portion, the upper portion of said flange being curvilinear with the section thereof nearest said first end portion of said clip bowing outwardly from said connecting portion and the remaining section bowing inwardly toward said connecting portion; and wherein said cover plate includes detent means on the top surface thereof nearest said bore engageable by said inwardly bowing section of said flange of said clip member when the end of said cover plate nearest said bore is urged between said hook-shaped flange and said connecting portion of said clip member when the bottom portion of said pole light is in said bore to lock said bottom portion of said pole light within said bore; detent means on the under surface of said cover plate which registers with and engages said outwardly bowing portion of said flange of said clip member when said cover plate is slid over said clip member to a position covering said bore to lock said cover plate in this covering position; and a protrusion extending below said cover plate which engages said pivoting means on said first end of said clip member to pivot said clip member away from said bore so that the bottom portion of said pole light can be inserted in said bore.

8. A base and pole light assembly comprising:

a pole light;

a base plate having a bore therethrough for telescopically receiving the bottom portion of said pole light, said bore being defined by side walls extending below said base plate;

a cover plate mounted on top of said base plate, said cover plate being horizontally slidable between a position where said cover plate covers said bore and a position where said cover plate exposes said bore; and

locking means associated with said cover plate for securing said cover plate in position when said cover plate is slid to a position covering said bore and for securing the bottom portion of said pole light within said bore upon sliding said cover plate toward said pole when said pole is inserted in said bore, said locking means including a clip member pivotally mounted on said base plate so as to be pivotable by said cover plate away from said bore so that the bottom portion of said pole light can be inserted in said bore, toward said pole light to frictionally engage the pole of said pole light when the bottom portion of said pole light is inserted in said bore, and beneath said cover plate for frictional engagement therewith when said cover plate is slid to a position covering said bore.

9. The base assembly of claim 8 which further comprises electrical contact means in the bottom of said

bore which makes electrical contact with corresponding electrical contact means in the bottom of said pole light when the bottom portion of said pole light is inserted in said bore.

10. The base assembly of claim 9 wherein the pole of said pole light has a lateral protrusion and said bore has a locator detent portion operable to receive a corresponding lateral protrusion of the pole of said pole light so that when said pole is inserted in said bore with said lateral protrusion fitting in said detent portion, said electrical contact means in the bottom of said bore will be properly oriented with the electrical contact means in the bottom of said pole to make proper electrical contact.

11. The base assembly of claim 10 wherein said lateral protrusion is vertically located on said pole so as to provide an upper ledge portion for abutting said clip member when said clip member frictionally engages said pole.

12. The base assembly of claim 8 wherein the bottom portion of said pole is enlarged to provide an upper ledge portion for abutting said clip member when said clip member frictionally engages said pole.

13. A base and pole light assembly for a boat comprising:

a pole light having electrical contact means at the bottom thereof;

a base plate operable to be mounted upon and with a substantially unobstructive low profile along its entire length so as to extend along a portion of the deck of the boat, said base plate having a bore therethrough for telescopically receiving the bottom portion of said pole light, said bore being defined by side walls extending below said base plate and the upper surface of the deck of the boat, said side walls providing lateral support for the pole light in an unobstructive posture generally below said base plate and the upper surface of the deck of the boat;

electrical contact means in the bottom of said bore for making electrical contact with the electrical contact means of said pole light when it is inserted into said bore; and

a cover plate mounted on top of said base plate, said cover plate being horizontally slidable between a position where said cover plate covers said bore to minimize exposure of the bore to the reception of foreign material and a position where said cover plate exposes said bore for the reception of the base portion of the pole light within said bore.

14. The base assembly of claim 13 wherein the pole of said pole light has a lateral protrusion and said bore has a locator detent portion corresponding to said protrusion so that when said pole is inserted in said bore with said lateral protrusion fitting in said detent portion, said electrical contact means in the bottom of said bore will be properly oriented with the electrical contact means in the bottom of said pole to make proper electrical contact.

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