Jan. 23, 1968 K. F. GUGGEMOS 3,364,635

RECESSED HINGED BASE STANDARD

Filed Jan. 26, 1966 2 Sheets-Sheet 1

FIG. 1A

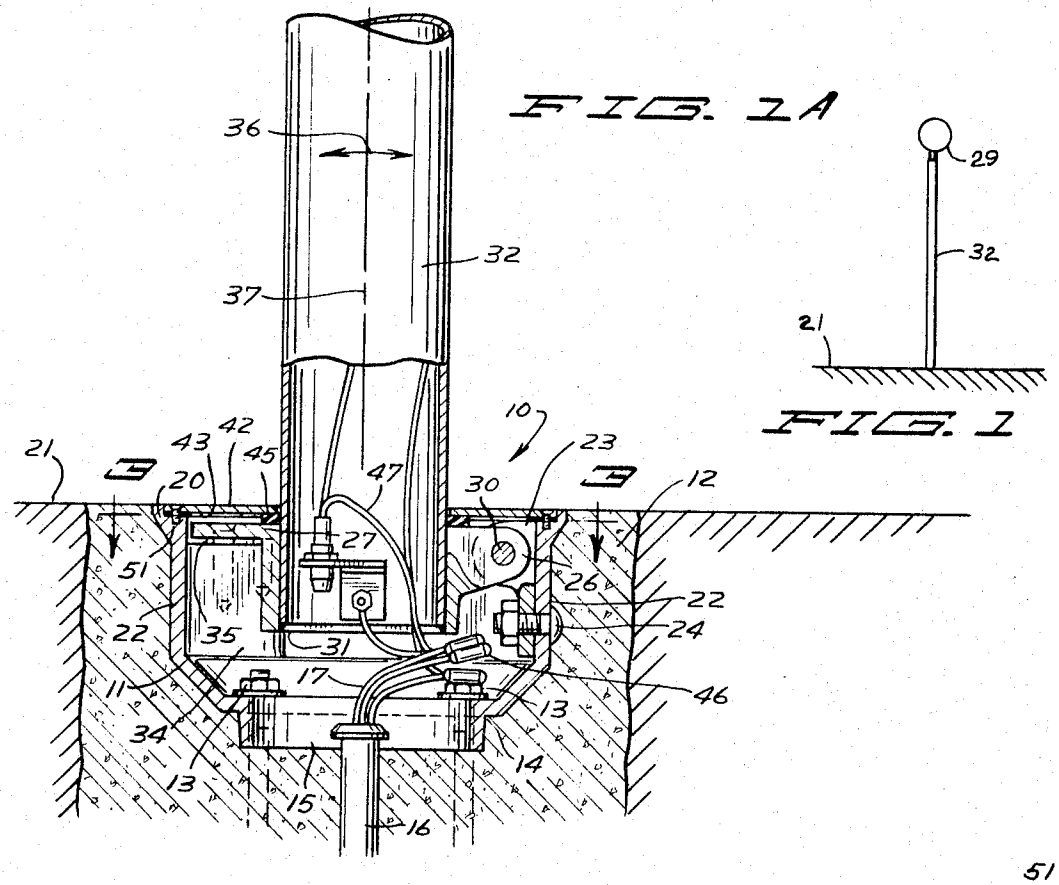
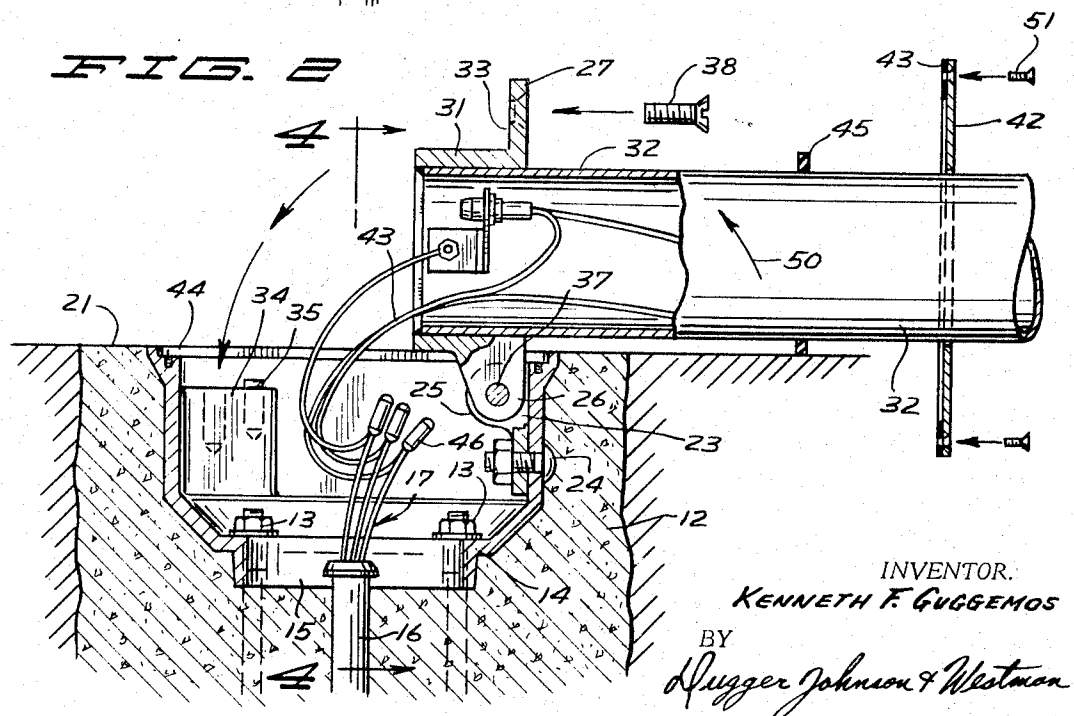






FIG. 1

FIG. 2




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Filed Jan. 26, 1966 2 Sheets-Sheet 2

FIG. 3

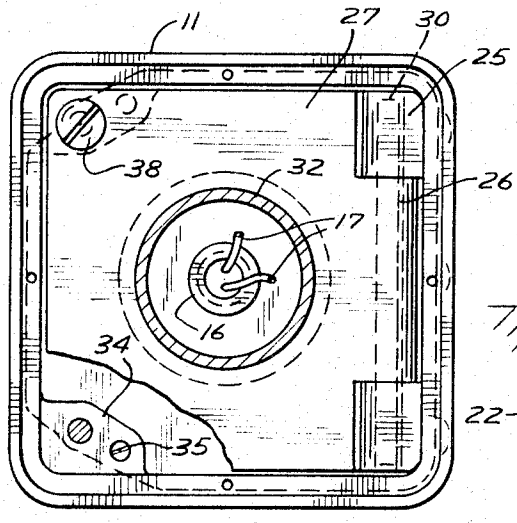



FIG. 4

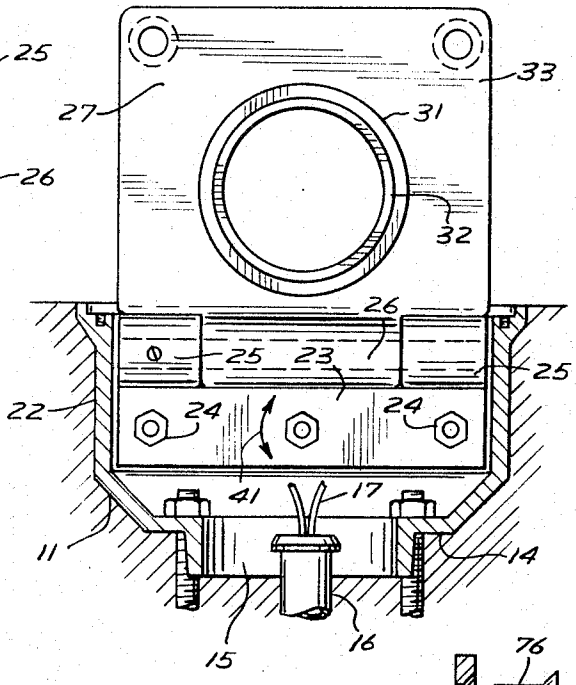



FIG. 5

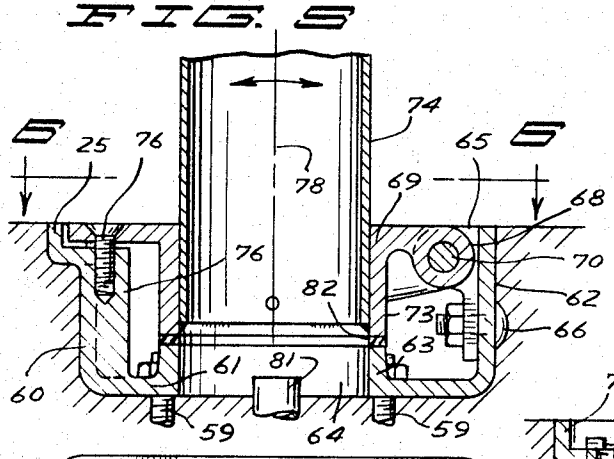



FIG. 7

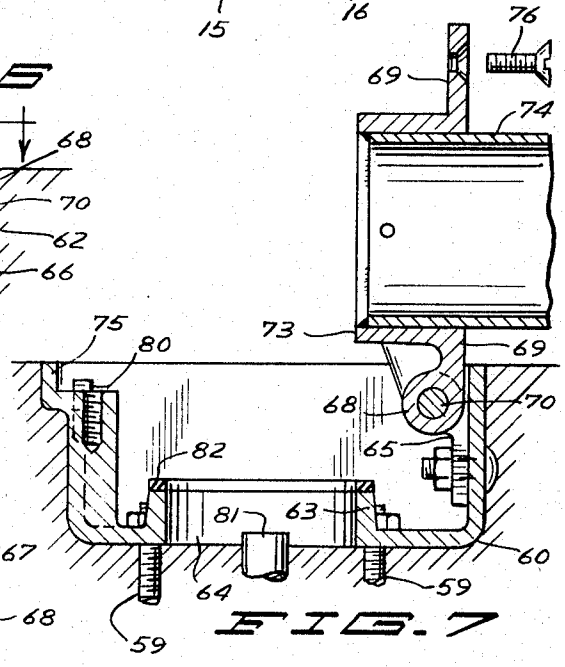
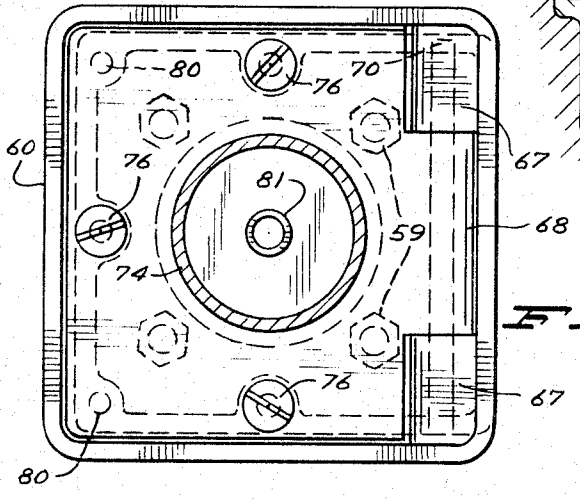



FIG. 6




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3,364,635

# RECESSED HINGED BASE STANDARD

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10 Claims. (Cl. 52—122)

The present invention has relation to lighting standards and more particularly to a hinged base for a lighting standard which is recessed below the surface of the ground to greatly enhance the appearance of the standard and remove the cluttered look associated with the old type bases.

At the present time, the hinged base lighting standard has been increasing in popularity because of the simplicity and which luminaires on the standards can be serviced and replaced. In the modern trend of architecture, however, the accent has been on simplicity and gracefulness. The standards themselves are generally now tubular and can be tapered and formed into curves if desired. This gives very attractive appearance for the standards used around buildings and other places. However, the above ground bases which have previously been available do not lend themselves well to these graceful lines. Further, many architects wish to have lighting standards or poles which appear to "grow" out of the ground, or in other words, have no visible means of attachment to the ground.

In order to combine the advantages of the hinged base with the hidden features of a recessed base, the present device has been advanced. Because the base housings are usually mounted at the time some concrete is poured, the base housings themselves generally are mounted prior to the time that the standards are installed. Therefore means are provided in the present device for plumbing the standards or poles and making them stand upright. Further, with a recessed base, which is flush with the surface of the ground or concrete wall or floor, it is necessary to have some means to waterproof the housing to prevent water from entering the base, shorting out the electrical connections and perhaps even causing corrosion and other damage.

Therefore, it is an object of the present invention to present a hinged base which can be recessed into the ground and which will support a lighting standard or pole.

It is a further object of the present invention to present a hinged base which can be mounted flush with the surface of the ground or supporting structure of a light standard and which has provision for holding the standard in plumb.

It is a still further object of the present invention to present a recessed base which is of sufficient strength to withstand the loads encountered during normal use.

It is another object of the present invention to present a hinged base which has an outer housing that provides space therein for making electrical connections and which permits easy pivoting of the standard to a lowered position for servicing of the light at the top of the standard.

It is another object of the present invention to present a recessed flush mounted hinged base that is completely waterproofed to prevent entry of moisture into the base.

It is a further object to present a recessed pole base that utilizes four anchor bolts and has a housing that can be accurately mounted prior to installing the pole.

Other objects are inherent in the specification and will become apparent as the description proceeds.



In the drawings,

FIG. 1 is a side elevational view of a light pole and light installed on a base made according to the present invention;

FIG. 1A is a fragmentary vertical sectional view of a recessed hinged base made according to a first form of the present invention and showing the lighting standard in an upright position;

FIG. 2 is a vertical sectional view of the device of FIG. 1 with the lighting standard in a lowered position;

FIG. 3 is a sectional view taken as on line 3—3 of FIG. 1;

FIG. 4 is a view taken as on line 4—4 in FIG. 2;

FIG. 5 is a fragmentary vertical sectional view of a hinged base made according to a second form of the invention;

FIG. 6 is a sectional view taken as on line 6—6 in FIG. 5; and

FIG. 7 is a vertical sectional view of the device of FIG. 5 showing it with a lighting standard in a lowered position.

Referring to the drawings and the numerals of reference thereon, a recessed hinged base assembly illustrated generally at **10** includes a main housing **11** which is attached to a concrete foundation illustrated generally at **12**, or some other suitable anchor through the use of four mounting anchor bolts **13** which are sunk into the concrete and extend upwardly through a bottom wall **14** of the housing **11**. The four anchor or mounting bolts are spaced around the housing, which is square in cross section to provide adequate support for the housing. The bolts are held to the housing with lock nuts on the top and bottom of the bottom wall. The anchor bolts are installed on the housing before the housing is placed in position. The lock nuts hold the bolts properly. The anchor bolts **13** are spaced around the perimeter of the bottom wall, and a center opening **15** is provided in the bottom wall. An underground conduit **16** extends upwardly into the center opening **15** and carries electrical wires illustrated generally at **17** from an electric source (not shown), which is used for lighting the luminaire or light held by the pole. The opening helps in locating the unit directly over the conduit.

As shown, the side walls of the housing **11** taper upwardly from the bottom wall **14** and then extend straight vertically upwardy and terminate along a peripheral flange **20**, the top edge of which is flush with the surface **21** of the ground or floor in which the housing is mounted.

On a first of the side walls **22** of the housing, a hinge member **23** is mounted with three bolts illustrated generally at **24**. The bolts pass through provided openings in the wall **22** of the housing and extend through openings in the hinge member **23**. Suitable nuts are placed on the bolts for tightening the hinge member against the wall **22**.

The hinge member **23** has a pair of spaced apart ears **25, 25** which are of size to receive a lug **26** therebetween. The lug **26** is integral with a hinged standard or pole support plate **27**. A suitable pin **30** is passed through provided aligning openings in the ears **25, 25** and the lug **26** to provide a hinging action for the support plate **27**. The hinge pin can be held in place with a set screw in one ear **25** or other suitable device.

The hinged support plate **27** is of size to fit within the four perimeter walls of the housing in a closely spaced relation, and will pivot about the axis of the pin **30**. As

shown, the support plate **27** has a center hub **31** which is of size to receive a light pole or standard **32** that is welded in place inside the hub **31** and extends upwardly therefrom. The pole **32** is used to mount a suitable light or luminaire **29** at the upper end thereof. The edge portion **33** of the plate **27**, opposite from the lug **26** forms a plate-like lip which rests down upon a pair of bosses **34**, **34** which are formed in the two corners of the housing **11** adjacent the wall opposite from the hinge member **25**.

The bosses are located so they will bear against the lip portion **33** with the pole **32** upright. An adjusting set screw **35** which has a flat head adapted to engage the lip portion **33** and thereby control the angular position of the hinged support plate **27** about its pivoting or hinged axis is threadably mounted in each of the bosses. This will mean then that the axis **37** of the pole **32** can be adjusted so that it is plumb in the directions as indicated by double arrow **36** in FIG. 1. This adjustment is made by turning the set screws **35** in or out until the axis **37** of the pole **32** is properly oriented in its plane of movement about its hinge axis of pin **30**.

In addition, the bosses **34** are drilled and tapped to receive a pair of countersunk head cap screws **38** which pass through provided countersunk openings in the support plate **27** and thus are threaded into the bosses so that the support plate **27** is held locked against the tops of the set screws **35**. Then the pole cannot pivot at all about its axis when the cap screws **38** are in place.

The plumbing of the axis **37** of the pole **32** in the plane at right angles from that of its movement about hinge pin **30** is accomplished by adjusting the hinge bracket **23** on bolts **24**. Either slightly slotted holes can be provided in the hinge bracket **23** or else just merely oversize holes can be provided so that the bracket can be tilted about its center to insure that the axis of pin **30** is horizontal, thus insuring that the pole axis **37** is vertical in the plane opposite from that of the hinging plane when the pole is upright. In this manner, namely by shifting the bracket **23** in directions as indicated by the double arrow **41** in FIG. 4, the pole can be plumbed in the direction opposite from its hinging plane.

In order to make sure that the housing **11** is completely sealed from the weather, a cover plate **42** is placed over the pole **32** and a gasket **43** is provided around the perimeter which fits down over a sealing surface **44** on the flange **20**. As can be seen, the flange **20** is recessed to receive this cover plate so that the cover plate is flush with the surface **21** also. In addition, a gasket that tightly grips the pole **32** is provided against the pole. This seals against the top of the hinge plate and the edges defining the center opening in the cover plate **42** around the pole. Thus, the cover plate **42** is sealed in two places, namely by gasket **43** and gasket **45**. This completely waterproofs the housing **11** and prevents moisture from entering to get at the wiring. Not only that, it prevents water from filling the housing, freezing, and then cracking the housing.

The wires **17** are connected through the use of connectors **46** to wires **47** extending up into the pole and then to the light at the top of the pole. It can be seen that the bottom of the pole **32** is open through hub **31** into the cavity formed in the housing **11** and the connections can easily be made when the pole is in its lowered position shown in FIG. 2.

As stated previously, when the unit is to be used, the housing **11** is placed into place with the anchor bolts **13** embedded in the wet concrete and then the concrete is alowed to set. The housing is positioned so that the top of the flange **20** is flush with the surface **21**. Then the support plate **27** is attached to the pole or standard **32**, and the bracket **23** is placed into the inside of the housing **11**. The bracket **23** is then adjusted on its bolts **24** so that the axis of the openings through ears **25** is horizontal. The support plate **27** is then put into place and pin **30** is inserted through the ears **25** and lug **26**. The pole can be



laid down as shown in FIG. 2 when this is done. The wires **17** and **47** are connected. The pole **32** is then raised into position by pivoting the unit in direction as indicated by arrow **50** in FIG. 2. The set screws **35** in lugs **34** will engage the lip portion **33** of the plates **27** and support the plate. By adjusting the set screws **35** to the desired height, the plumbing of the axis **37** of the pole can be accomplished. Once properly adjusted, the support plate will be locked into place through the use of the countersunk head screws **38**. The pole will be held very securely and safely.

Then the cover plate **42** is slid down over the pole. The cover plate and gaskets are installed prior to the putting of the base **27** on the pole or are slid down from the top of the pole if possible. The gaskets are put into place, and the cover plate is then held down into the flange **20** with suitable screws **51**.

Thus the unit forms a base assembly which will hinge so that the pole can be lowered to position as shown in FIG. 2 for servicing of the lights at the top of the pole and which presents a very neat appearance to the outside. The base assembly does not extend above ground surface. It makes the pole actually appear to "grow" out of the surface **21**. The cover plate **42** and its associated gaskets will securely seal the unit so that no moisture can get in and short out the wiring or cause other problems.

To lower the pole, the cover plate is removed, slid partially up the pole, screws **38** are removed and the unit is merely hinged downwardly.

In FIGS. 5, 6 and 7 a slightly modified base made according to the present invention is shown. The unit is flush mounted and hinges as well as sealing the interior of the housing against moisture.

As shown in FIG. 5, a housing **60** is formed with a bottom wall **61** and side walls **62**. The bottom wall **61** is formed to have a neck **63** extending upwardly therefrom and defining an opening **64**. The housing **60** can be mounted into the ground or its foundation with four anchor bolts **59**. The anchor bolts also are locked onto the bottom wall with lock nuts so they are held in place prior to installation into the ground. A hinge bracket **65** is bolted with suitable bolts **66** to one of the walls **62**. The bracket **65** has a pair of ears **67**, **67** which are spaced apart the same way as the ears **25** in the bracket in the first form of the invention. The bolts **66** hold the bracket in place.

The ears **67**, **67** are spaced far enough apart to receive a lug **68** of a hinged support plate **69**. The lug **68** has an opening, as do the ears **67**, **67** and a pin **70** is passed through these openings to hingedly attach the lug between the ears **67**. The support plate **69** will move about the axis of the pin **70**. The axis of the pin **70** can be moved to a horizontal position by allowing for some clearance in the holes for the bolts **66** in bracket **65** so that the bracket **65** can be cocked slightly thus adjusting the axis of pin **70** with respect to the horizontal.

As can be seen, the hinge plate **69** has a neck or hub **73** of size to receive a pole or standard **74**. The pole **74** is welded into place inside the neck. When the pole **74** is in its upright position, as shown in FIG. 5, the hinge plate **69** is positioned within the perimeter of the housing **60**. An upper peripheral flange **75** of the housing **60** is recessed to receive the peripheral edges of the support plate **69**.

Three countersunk head cap screws **76** are passed through provided openings in the support plate and are threadably mounted to aligning bosses **77** on the edges of the housing **60**. This can be seen in FIG. 6 in dotted lines. The support plate **69** can be held in position with respect to the housing through the use of the screws **76**. In order to level the support plate and make the axis **78** of the pole **74** vertical, a pair of set screws **80**, **80** are threadably mounted in the corners of the housing **60** opposite from the lugs **67**. The set screws **80** can be adjusted so that they engage the underside of the support

plate **69** to position the pole properly in its plane of movement so that the axis **78** is exactly vertical.

A conduit **81** can extend upwardly from the concrete base in which the housing is mounted into the opening **64** defined by the neck **63** of the housing **60**. The conduit **81** can be used for holding electrical wires leading to the base. In order to seal the interior of the opening **64**, where the electrical wires are positioned, from the external elements, a thick gasket **82** is mounted around the opening **64** on the upper edge surface of neck **63** and this gasket engages the bottom end surface of the neck **73** of hinge plate **69** when the hinge plate is in position as shown in FIG. 5, with the pole upright. The gasket **82** can be of sufficient resilience and thickness so that the engagement is made easily, even allowing for adjustments to plumb the unit. If the gasket material is sufficiently resilient, these adjustments can be made without losing the seal. The gasket **82** will then insure that any wire coming through conduit **81** will not be subjected to moisture or other detrimental conditions.

The main cavity of the housing **60** can be provided with a suitable drain to permit water to drain off as it enters. However, the gasket **82** will completely shield the wiring or other electrical components in this unit. This second form of the invention is more suitable where freezing temperatures are not a factor. Then there is no problem with water not draining out, freezing and breaking the housing.

The pole **74** can be hinged about the axis of pin **70** to a lowered position as shown in FIG. 7 merely by loosening the three screws **76** and removing them, and then lowering the pole about its hinged axis. The unit can then be raised again and held in place by replacing the screws **76**. Gasket **82** is the only gasket utilized but will seal the internal chamber housing the wiring and other critical electrical components, from the elements.

If desired or necessary, suitable ballast and other electrical components can be placed inside the pole **74** adjacent the base and all of these components then will be housed inside the pole and there will be no external members that break the simplicity of design and beauty of installation for the recessed bases. The recessed bases thus provide the advantages of a hinged base and the beauty of a recessed base in one unit and insure that water is excluded from the wiring for the pole. The wires will come up through the base and do not have to be mounted to the exterior.

The utilization of a separate base housing in both forms of the invention greatly simplifies the method of installing the recessed bases. The anchor bolts are preassembled onto the housing, without the hinge bracket in place. The bolts for the hinge bracket are installed however. Then the housing and the anchor bolts are positioned so that the center opening surrounds the electric conduit, which must be positioned before the foundation concrete is poured. The concrete is poured around the anchor bolts and housing and the final adjustment for depth of the housing is made. Then the hinge bracket and pole support plate, together with the pole, can be attached to the housing, after the foundation concrete has cured.

Previously, with above grade installations, the position of the anchor bolts was quite a problem. Not only were they incorrectly placed with respect to each other, but they would also be improperly positioned in relation to the electric conduit. Then, too, they were easily damaged because they protruded above grade—they would get run over and bent or the threads damaged. Another problem was getting concrete in the threads. The above grade bases were installed after the concrete had set. Time and effort were required.

In the prior devices, a template for locating the anchor bolts was used, but not completely successfully. The housings of the present invention arrive at the job site before the poles arrive and they are cemented in before



the pole arrives. There is no need for shims or temporary supports. The housings are installed with the top edge at grade and then leveled easily. Final adjustments for plumbing the pole are made after the hinge bracket is installed.

With the anchor bolts held in the housing, the installation is greatly simplified.

What is claimed is:

**1.** A base mounting a lighting standard on a supporting surface said base comprising a housing mounted with the major portion thereof below the supporting surface, means to anchor said housing securely with respect to the supporting surface, a support plate, said support plate having a light support pole attached thereto and extending outwardly therefrom, means to hingedly attach said plate to the housing, said support plate being hingedly movable from a position wherein said pole is upright to a lowered position, and means to hold said plate with respect to said housing when said pole is in its upright position, said support plate having an upper surface that is substantially flush with the supporting surface when said pole is upright.

**2.** The combination as specified in claim **1** and means in said housing defining an interior chamber through which electrical wires may pass into the interior of said pole, and gasket means to seal the interior chamber from the atmosphere.

**3.** The combination as specified in claim **1** wherein a separate cover plate is placed over said support plate with the pole in its upright position, and said gasket means is positioned between the support plate and said cover plate and surrounding said pole and between the cover plate and the upper edge of said housing, and means to fasten said cover plate to the housing.

**4.** The combination as specified in claim **1** and a hinged bracket to hingedly attach said support plate to said housing, the use of a hinge bracket and means to attach said hinge bracket to a wall of the housing so that the hinge bracket is adjustable to permit changing the axis of pivot of the hinge with respect to the horizontal.

**5.** The combination as specified in claim **4** and a pair of stop set screws threadably mounted to said housing and extending upwardly to engage said support plate when the support plate is in position with the pole standing upright.

**6.** The combination as specified in claim **2** wherein said chamber is defined by a cylindrical neck extending upwardly from a bottom wall of the housing, and a second cylindrical neck extending downwardly from said support plate and overlying said first cylindrical neck, and wherein said gasket means is positioned between and resiliently engages the edge surfaces defining said necks.

**7.** A method of installing a hinged light pole base having a support housing and an attachable hinged plate and pole assembly in a poured cementation foundation comprising the steps of:

attaching elongated anchor bolts securely to the housing so as to protrude therefrom in proper anchoring direction;

placing the support housing in its desired location;

pouring the foundation material in surrounding relationship to the anchor bolts until the upper edge of the housing is substantially flush with the surface of the surrounding foundation material and permitting the foundation material to harden; and

attaching the hinged plate and pole assembly to the housing.

**8.** The method of claim **7** including the further step of leveling the housing at grade prior to pouring the foundation.

**9.** The method of claim **7** including the further step of adjusting the hinge axis of the hinged plate and pole assembly to be horizontal.

**10.** In a lighting pole base for mounting into the

ground with the top of the base substantially grade level, and with a hingeable pole attached to the base, the improvement comprising a housing, a plurality of anchor means mounted on said housing to make a subassembly, means to secure said anchor means with the major portion of the housing below grade level, a support plate, hinge means to attach said support plate to the housing, said hinge means being attachable to the housing after the housing is secured at grade level, and a light support pole and light attached to said support plate, said support plate being substantially at grade level when said light support pole is in an upright position.



**References Cited**

UNITED STATES PATENTS

| | | | |
|---|---|---|---|
| 1,338,028 | 4/1920 | Linehan | 40—145 |
| 3,141,620 | 7/1964 | Guggemos | 240—84 |
| 3,311,333 | 3/1967 | Galloway | 52—298 |

JOHN E. MURTAGH, *Primary Examiner.*