Aug. 25, 1959 S. M. LAHR 2,901,724

ELECTRIC LIGHT FIXTURE

Filed Jan. 24, 1958 2 Sheets-Sheet 1

FIG. 1

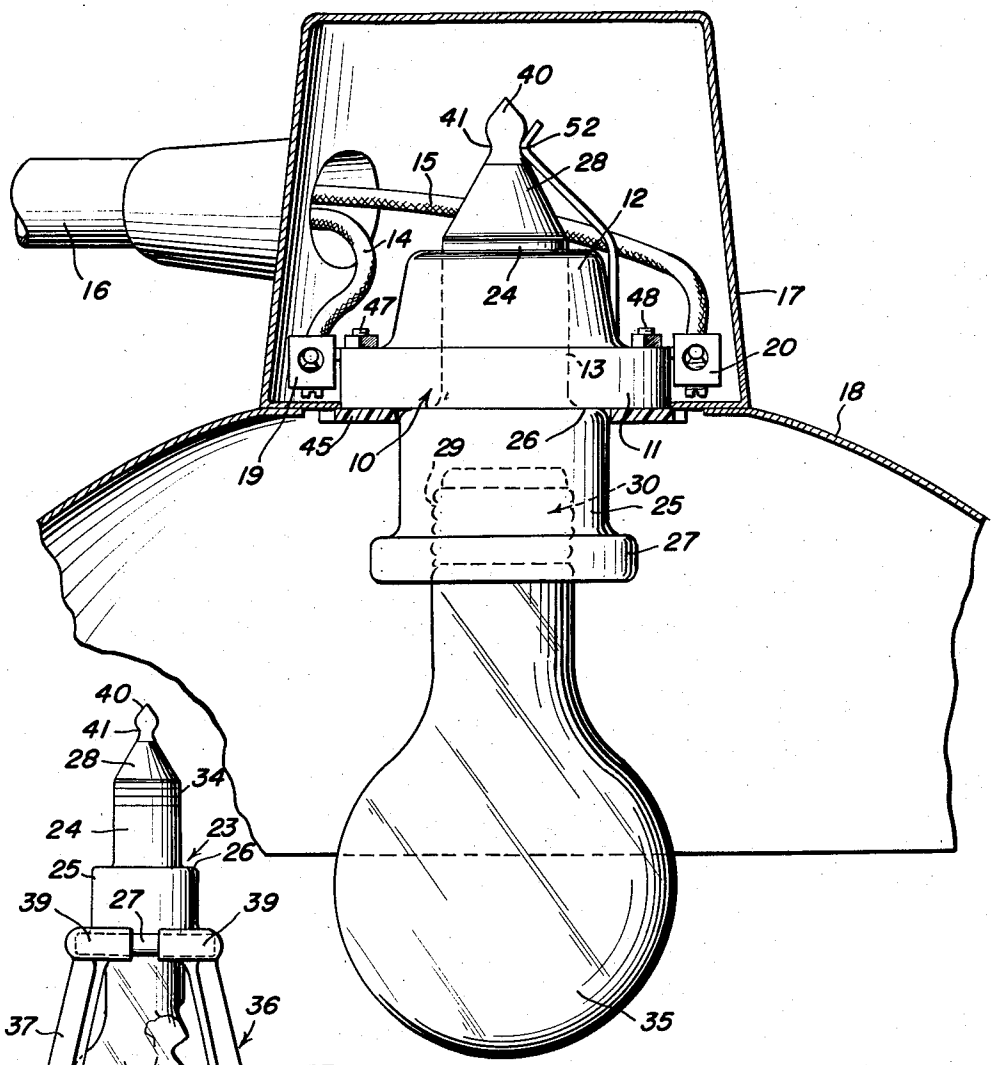


FIG. 2

INVENTOR.
Sheldon M. Lahr
BY Victor J. Evans & Co.
ATTORNEYS

Aug. 25, 1959 S. M. LAHR 2,901,724

ELECTRIC LIGHT FIXTURE

Filed Jan. 24, 1958 2 Sheets-Sheet 2

FIG. 4

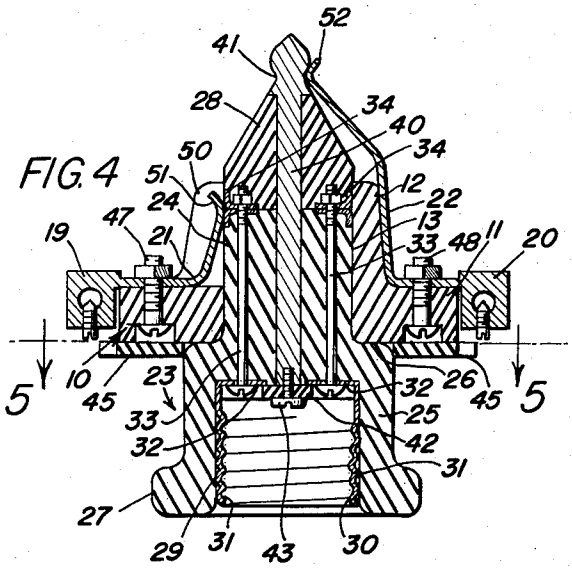


FIG. 3

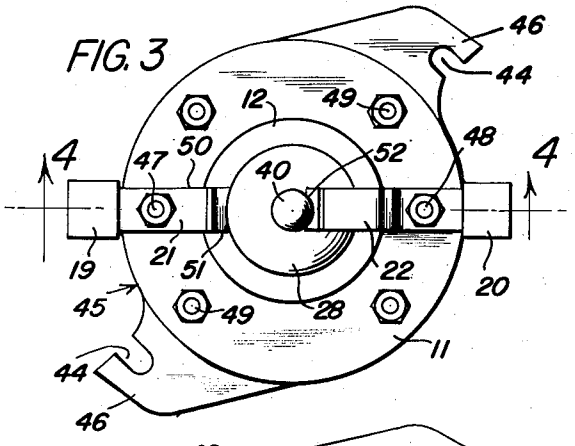


FIG. 5

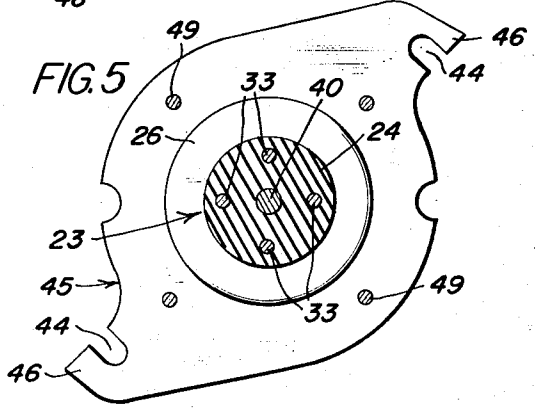
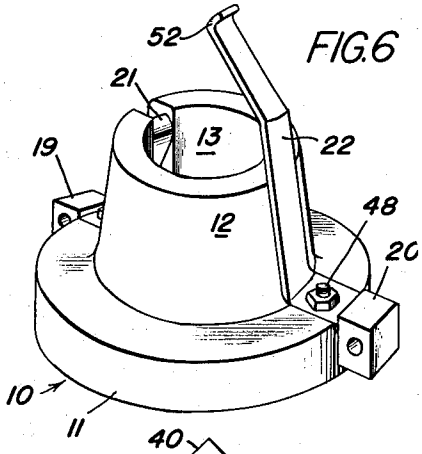


FIG. 6



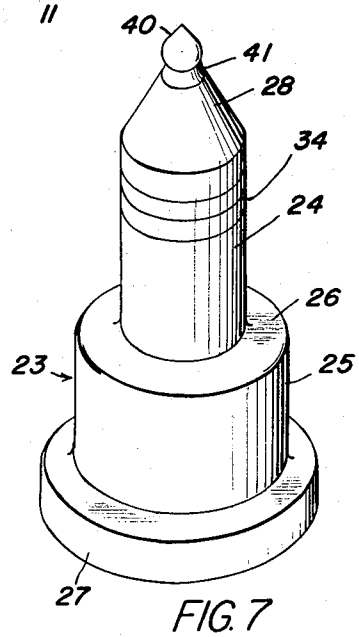


FIG. 7

INVENTOR.

Sheldon M. Lahr

BY Victor J. Evans & Co.

ATTORNEYS

United States Patent Office 2,901,724 Patented Aug. 25, 1959

2,901,724

ELECTRIC LIGHT FIXTURE

Sheldon M. Lahr, Forest, Ohio

Application January 24, 1958, Serial No. 711,092

3 Claims. (Cl. 339—154)

This invention relates to electrical equipment, and more particularly to an electric light or lamp fixture.

The object of the invention is to provide an electric light fixture which is constructed so that a member holding a light bulb can be readily removed from a remote location, as for example when the light bulb is to be changed or replaced.

A further object of the invention is to provide an electric light fixture which is adapted to be used outdoors as for example as part of a street light unit, and wherein the light fixture of the present invention is constructed or arranged so that a person standing on the ground can use a pole or stick to readily or conveniently remove the light bulb to be changed so that the job of replacing broken or worn out light bulbs in such street lamps is greatly facilitated or simplified.

A further object of the invention is to provide an electric light fixture which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same.

Figure 1 is a fragmentary vertical sectional view illustrating the electric light fixture of the present invention.

Figure 2 is an elevational view illustrating the bulb and body member which are removed by means of a person standing on the ground and using a pole or stick.

Figure 3 is a top plan view of the electric light fixture of the present invention.

Figure 4 is a sectional view taken on the line 4—4 of Figure 3.

Figure 5 is a sectional view taken on the line 5—5 of Figure 4.

Figure 6 is a perspective view illustrating the support member and spring contacts.

Figure 7 is a perspective view illustrating the body member which is removed from the support member when the light bulb is to be replaced or changed.

Referring in detail to the drawings, the electric light fixture of the present invention includes a stationary support member which is indicated generally by the numeral 10, and the support member 10 includes a lower annular flange 11 and an upstanding annular collar 12 which is of smaller diameter than the flange 11. The interior of the support member 10 is hollow as at 13 so as to define a bore for a purpose to be later described. The numerals 14 and 15 indicate electric wires or conductors which may lead or extend through a post 16, Figure 1, and the numeral 17 indicates a housing which has a casing or reflector 18 arranged therebelow.

The electric light fixture of the present invention further includes a pair of diametrically opposed blocks or terminals 19 and 20 which are connected to the wires 14 and 15 respectively. A first spring contact 21 extends

from the terminal 19, and a second spring contact 22 extends from the other terminal 20, Figure 4.

The numeral 23 indicates a removable or detachable body member which embodies a cylindrical section 24 which is releasably mounted in the bore 13 of the support member 10. The body member 23 further includes a lower cylindrical base section 25 which is of greater diameter than the section 24 whereby a shoulder 26 is defined, and the shoulder 26 abuts the lower edge of the support member 10. An annular enlarged lip 27 is formed or provided on the bottom portion of the body member 23.

There is further provided on the upper end of the body member 23 a conical section 28, Figure 4. The lower portion of the body member 23 is provided with a recess 29, and a shell 30 is snugly seated in the recess 29. The shell 30 includes a threaded cylindrical side wall 31 and a horizontally disposed top wall 32. The numeral 33 indicates bolts or studs which extend between the top wall 32 of the shell 30 and a circular contact band 34 which is carried by the intermediate portion of the body member 23. The numeral 35 indicates in Figure 2 a bulb which has its base arranged in threaded engagement with the shell 30, and the bulb 35 is arranged so that when the bulb is to be removed or replaced, the entire body member 23 is disconnected from the support member 10. The removal of the body member and bulb are adapted to be accomplished by means of a stick or instrument which is indicated by the numeral 36, and the stick 36 is of the type that includes arms 37 and a pole 38 which may be gripped in the hands of a person standing on the ground, and the arms 37 carry jaws 39 which are adapted to engage the lip 27 on the bottom of the body member 23.

Extending longitudinally through the body member 23 is a vertically disposed terminal 40 which is provided with an annular groove 41 adjacent its upper end. An insulated washer 42 is arranged adjacent the lower end of the terminal 40, and the numeral 43 indicates a securing element such as a screw or bolt which extends through the washer 42 and into engagement with the lower end of the terminal 40.

As shown in the drawings, there is provided a plate 45 which has fingers 46 that are provided with slots 44, and the plate 45 is arranged below the support member 10.

A bolt and nut assembly 47 connects the spring contact 21 to the flange 11 of the support member 10, and a similar bolt and nut assembly 48 connects the spring contact 22 to the flange 11. The numeral 49 indicates securing elements such as bolts which are used for connecting the plate 45 to the flange 11.

From the foregoing, it is apparent that there has been provided an electric light fixture which is constructed so that when the fixture forms part of a street lamp or light assembly, a person can conveniently remove or replace a bulb such as the bulb 35. Normally the parts are in the position shown in Figures 1, 3 and 4 for example so that it will be seen that the electrical circuit is completed from the wires 14 and 15 through the terminals 19 and 20 and through the spring contacts 21 and 22. The contact 21 frictionally engages the band 34, and the studs or bolts 33 carry the electrical current from the band 34 to the top wall 32 of the shell 30. The light bulb 35 has its base arranged in threaded engagement with the shell 30. An end of the base of the light bulb is engaged by the screw member 43 which is connected to the lower end of the terminal 40 so that the electrical circuit is completed through the terminal 40 and through the upper end of the contact 22 which engages the recessed portion 41 adjacent the top of the terminal 40. The spring contact 21 extends through a cutout 50 in

the collar 12. As shown in the drawings, the upper portion of the contact 21 is shaped to define a pressure finger 51 which bears against the ring or band 34. Similarly, the upper portion of the contact 22 is shaped to define a pressure finger 52 which bears against the groove 41 in the top of the terminal 40. The housing 17 surrounds the upper portion of the fixture, and the casing 18 is arranged below the housing 17 as shown in Figure 1.

When the bulb 35 is to be replaced, as for example when the bulb burns out or becomes broken as shown in Figure 2, then a stick or implement such as the stick 36 shown partially in Figure 2 is used and gripped by a person standing on the ground, it being understood that the fixture of the present invention is mounted or arranged in a position which is somewhat above the ground level, as for example the fixture can be used in a street light system.

When the bulb 35 becomes worn out or broken, a person standing on the ground grips the lower end of the stick 38 and the arms 37 can be moved by a suitable actuating mechanism on the stick 36 so that the jaws 39 are moved into gripping engagement or relation with respect to the lip 27 on the lower end of the body member 23. Then, by pulling down on the stick 36, the body member 23 will be separated from the support member 10. Thus, by applying sufficient pressure with a downward pull on the stick, the friction exerted by the finger 52 in the groove 41 will be overcome, and similarly, the friction between the band 34 and finger 51 will be overcome so that the body member 23 can be moved downwardly and it is noted that when the body member 23 is removed, the bulb 35 is carried along therewith. In other words, according to the present invention the bulb 35 is not unscrewed or separately removed, since during the process of changing the bulb, the body member 23 is separated from the remaining portion of the fixture. Thus, with the body member 23 in a lowered position, the serviceman or other person can then detach the jaws 39 from the lip 27 and then conveniently remove the broken or burned out bulb 35 from the shell 30 and after a new bulb is inserted in the shell 30, the jaws 39 of the stick 36 can again be arranged in engagement with the lip 27 so that the body member 23 with the new bulb 35 therein can be raised to the level of the fixture so that the portion 24 of the body member 23 can be inserted into the bore 13 of the support member 10. When the body member 23 reaches its proper elevation or position, the finger 51 will engage the band 34, and similarly the other finger 52 of the contact 22 will engage the groove 41 so that the body member 23 will be maintained or held in its proper position. Then, the jaws 39 can be opened and the stick 36 can be detached or removed so that the serviceman or operator can readily service a great number of street lamps with a minimum of work and in the shortest possible time.

The parts can be made of any suitable material and in different shapes or sizes.

An important advantage of the present invention is that it is not necessary to hold the body member 23 in any particular direction or oriented fashion since by merely inserting the body member 23 into engagement with the support member 10, the electrical circuit will be automatically completed through the contacts 21 and 22 and through their associated parts, and this is due to the provision of the circular band 34 which must make contact with the contact 21, and also the finger 52 will engage the top of the terminal 40.

The washer 42 adjacent the lower end of the terminal 40 may be made of electrically insulated material. The shell 30 may be made of brass.

Heretofore when changing multiple street lamps, such work has been done by unscrewing the lamps with a lamp changer stick from the ground. However, if the lamp or bulb is broken, the stick is useless and it is necessary that a truck equipped with an aerial ladder from a central headquarters or the like come to replace the lamp. With the present invention, a bayonet socket and base is provided which permits the removal of the socket from the base or street light hood. Even though the lamp is burned out or broken, with the lamp changer stick 36, the workman can replace the lamp from the ground and this is a more satisfactory method than the method now in use. With the present invention the socket or body member 23 is removed from the base or support member 10 by means of the stick 36 so that the lamp 35 can then be replaced on the ground. The major portion of the support member and body member may be made of electrically insulating material such as porcelain or a suitable plastic. The center terminal 40 is made of electrically conducting material such as brass, and the contacts 21 and 22 not only serve as conductors of electric current, but also serve to hold the body member 23 in place in the support member. The band 34 is made of a suitable conducting material such as brass, and the bolts 33 also serve as conductors. The brass shell 30 is adapted to receive the conventional base of a lamp 35. The plate 45 is used for connecting the support member 10 in the street light hood, and the shape or size of the plate 45 may be varied in order to fit different makes of light hoods. The terminals 19 and 20 are adapted to be connected to a suitable source of electrical energy such as 110 volt electrical energy.

Thus, with the present invention, a broken lamp can be readily removed and replaced and also burned out lamps can be conveniently removed and replaced as previously described.

Minor changes in shape, size and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

I claim:

1. In an electric light fixture, a stationary support member including a horizontally disposed annular flange and a cylindrical collar arranged above said flange, there being a cutout in said collar, there being a cylindrical bore within said support member, first and second terminals arranged adjacent the outer periphery of said flange, conductor wires connected to said terminals, a first spring contact extending from said first terminal and positioned in the cutout in said collar, a second spring contact extending from said second terminal, a body member including a cylindrical section releasably mounted in the bore in said support member, said body member further including an enlarged cylindrical base section defining a shoulder abutting the lower surface of said flange, a conical section on the upper end of said body member, there being a recess in the lower base section of said body member, a shell seated in said recess for receiving an electric lamp base therein, said shell including a threaded cylindrical side wall and a horizontally disposed top wall, a contact band connected to said body member and engaged by said first spring contact, spaced parallel studs extending between said contact band and the top wall of said shell for retaining said shell in the recess in the base section of said body member, a terminal extending through said body member, said terminal having an annular groove adjacent its upper end for engagement by said second spring contact, and a securing element engaging the lower end of said terminal.

2. In an electric light fixture, a stationary support member including a horizontally disposed annular flange and a cylindrical collar arranged above said flange, there being a cutout in said collar, there being a cylindrical bore within said support member, first and second terminals arranged adjacent the outer periphery of said flange, conductor wires connected to said terminals, a first spring contact extending from said first terminal and positioned in the cutout in said collar, a second spring contact extending from said second terminal, a body member including a cylindrical section releasably

mounted in the bore in said support member, said body member further including an enlarged cylindrical base section defining a shoulder abutting the lower surface of said flange, a conical section on the upper end of said body member, there being a recess in the lower base section of said body member, a shell seated in said recess for receiving an electric lamp base therein, said shell including a threaded cylindrical side wall and a horizontally disposed top wall, a contact band connected to said body member and engaged by said first spring contact, spaced parallel studs extending between said contact band and the top wall of said shell for retaining said shell in the recess in the base section of said body member, a terminal extending through said body member, said terminal having an annular groove adjacent its upper end for engagement by said second spring contact, and a securing element engaging the lower end of said terminal, said support member and body member being made of electrically insulating material.

3. In an electric light fixture, a stationary support member including a horizontally disposed annular flange and a cylindrical collar arranged above said flange, there being a cutout in said collar, there being a cylindrical bore within said support member, first and second terminals arranged adjacent the outer periphery of said flange, conductor wires connected to said terminals, a first spring contact extending from said first terminal and positioned in the cutout in said collar, a second spring contact extending from said second terminal, a body member including a cylindrical section releasably mounted in the bore in said support member, said body member further including an enlarged cylindrical base section defining a shoulder abutting the lower surface of said flange, a conical section on the upper end of said body member, there being a recess in the lower base section of said body member, a shell seated in said recess for receiving an electric lamp base therein, said shell including a threaded cylindrical side wall and a horizontally disposed top wall, a contact band connected to said body member and engaged by said first spring contact, spaced parallel studs extending between said contact band and the top wall of said shell for retaining said shell in the recess in the base section of said body member, a terminal extending through said body member, said terminal having an annular groove adjacent its upper end for engagement by said second spring contact, and a securing element engaging the lower end of said terminal, said support member and body member being made of electrically insulating material, a circular lip on the lower end of said body member, the lower portion of the body member adapted to be engaged by a stick when the body member is to be separated from the support member.

References Cited in the file of this patent

UNITED STATES PATENTS

573,723	Thomson	Dec. 22, 1896
965,733	Paiste	July 26, 1910
2,385,478	Steinmayer	Sept. 25, 1945