Aug. 26, 1958 R. T. BURNS ET AL 2,849,574

LUMINAIRE

Filed June 29, 1955 2 Sheets-Sheet 1

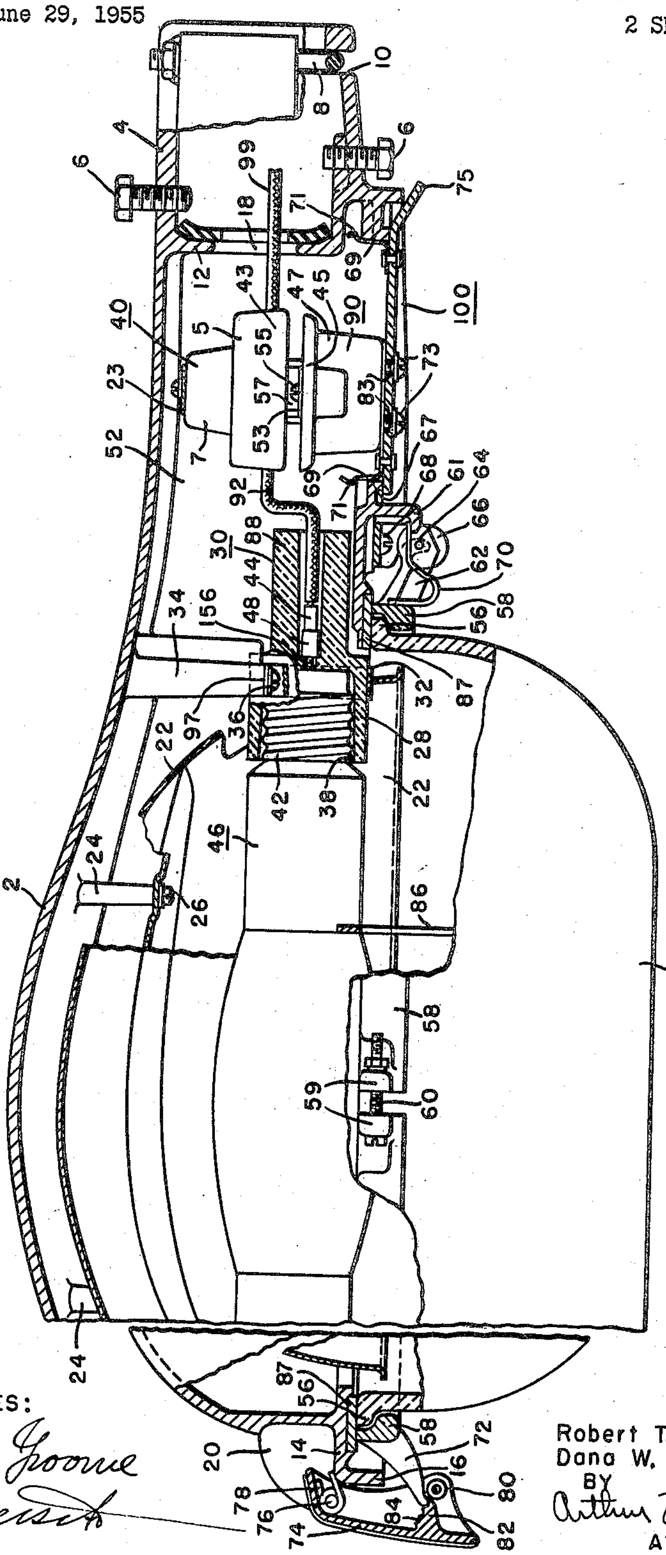


Fig. I.

WITNESSES:

INVENTORS
Robert T. Burns &
Dana W. Rowten.
BY
ATTORNEY

Aug. 26, 1958 R. T. BURNS ET AL 2,849,574

LUMINAIRE

Filed June 29, 1955 2 Sheets-Sheet 2

Fig.2.

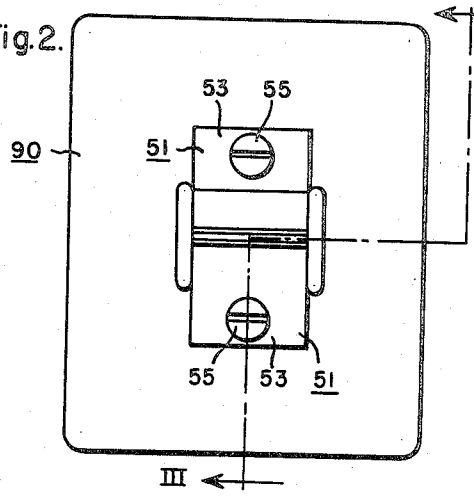


Fig.3.

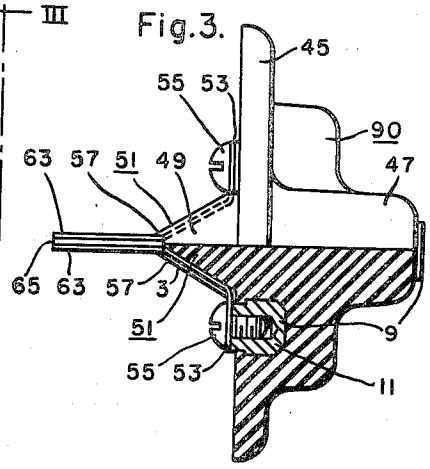


Fig.4.

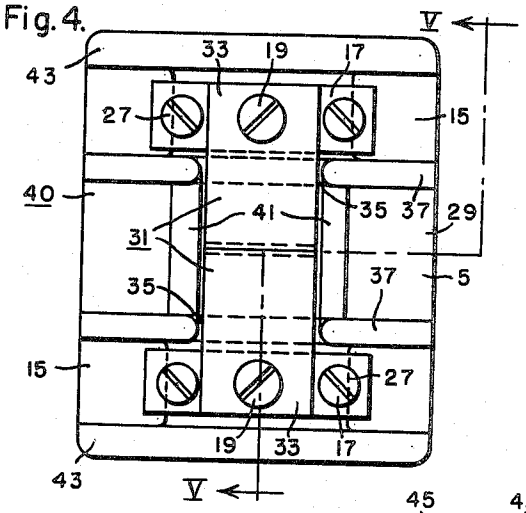


Fig.5.

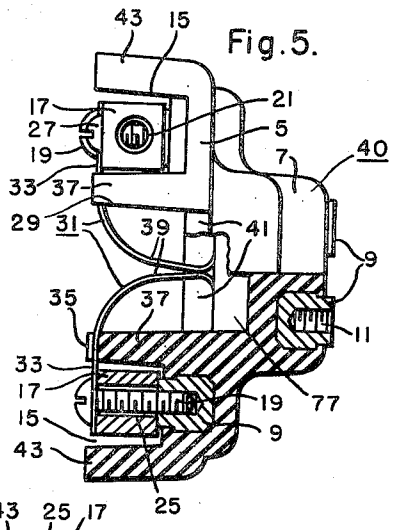
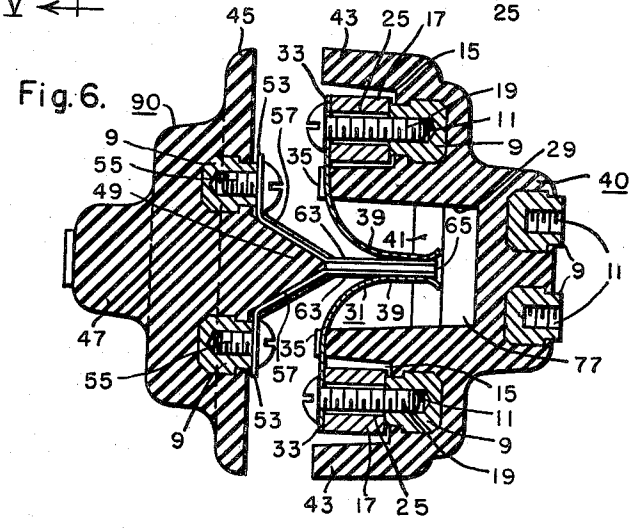


Fig.6.



United States Patent Office 2,849,574 Patented Aug. 26, 1958

2,849,574

LUMINAIRE

Robert T. Burns, Bay Village, and Dana W. Rowten, Lakewood, Ohio, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Application June 29, 1955, Serial No. 518,844

9 Claims. (Cl. 200—118)

This invention relates generally to luminaires and more particularly to a luminaire which is employed in series lighting circuits.

While luminaires of this general type have been previously used in mercury street lighting systems, the mercury lamp in each luminaire has been individually controlled which construction is fairly expensive due to the necessity of so providing the control components in and for each luminaire. In order to eliminate such expensive duplication of control components, we have designed a new and improved luminaire which utilizes a mercury vapor lamp and has a novel form of housing so that the luminaire may readily be used in a series circuit.

One object of this invention, therefore, is to provide a luminaire having a novel form of housing which utilizes a mercury vapor lamp and is adapted for use in a series circuit.

Another object of this invention is to provide a luminaire which is adapted for use in a series circuit having an elongated cavity between the lamp and the luminaire supporting means for receiving a film cutout support means therein.

Still another object of this invention is to provide a simplified form of luminaire for series street lighting or the like service, employing an elongated housing in which series circuit control elements are located in a novel manner so that the luminaire may be readily serviced.

A more specific object of this invention is to provide a luminaire which is adapted for use in a series circuit having an elongated cavity between the lamp and the luminaire support means, which cavity is accessible by means of a door member having a film cutout secured thereto, and which film cutout is receivable within a receptacle secured to the luminaire in the cavity.

These and other objects of this invention will become more apparent upon consideration of the following detailed description of a preferred embodiment thereof, when taken in connection with the attached drawings, in which:

Figure 1 is a side sectional view of a luminaire constructed in accordance with this invention, with certain of the parts shown in elevation and showing a film holder and a film receptacle located therein;

Fig. 2 is an enlarged top plan view of the film holder shown in Fig. 1;

Fig. 3 is a partial side elevational and partial cross-sectional view of the film holder shown in Fig. 2, taken substantially along the line III—III thereof;

Fig. 4 is an enlarged top plan view of the film receptacle shown in Fig. 1;

Fig. 5 is a partial side elevational and partial cross-sectional view of the film receptacle shown in Fig. 4, taken substantially along the line V—V thereof; and

Fig. 6 is a cross-sectional view of the film holder and film receptacle, shown in Figs. 2 and 4, respectively, which are shown in assembled relationship.

While the invention is herein specifically disclosed as embodied in a street lighting type of luminaire, it should

be understood at the outset that the invention in its various aspects may find application in other types of luminaires than that specifically herein disclosed, and consequently the following specific disclosure is not intended as limiting with respect to any of the features of this invention.

The luminaire shown on the drawings is depicted as having an elongated housing which is formed of one integral piece of material, preferably a single metal casting, of a material such for example, as aluminum or an aluminum alloy. The luminaire housing has an enlarged portion 2 which is generally ovate in form and is provided with a generally ovate bottom opening so that it forms in effect one-half of an ovate spheroid. An elongated hollow sleeve 4 is formed integral with the housing and extends longitudinally outward from the housing substantially in alignment with the major axis of the ovate portion 2. The outer end portion of sleeve 4 is adapted to receive the end portion of an elongated mounting bracket therein (not shown) of well known size and construction, and it is provided with opposed set screws 6 inwardly from its outer end for engaging such a bracket, and adjusting the position of the luminaire thereon. A U-bolt 8 is mounted adjacent the outer end of the bracket receiving portion of sleeve 4 so as to be movable in a slot 10 provided in the lower portion of sleeve 4 adjacent its outer end. U-bolt 8 is adapted to be drawn up into clamping engagement with such a mounting bracket when inserted in the bracket receiving portion of sleeve 4, to firmly secure the luminaire on any such bracket. In order to limit the longitudinal distance, the end of such a bracket may be inserted within sleeve 4. Sleeve 4 is provided with an integral laterally inwardly projecting flange 12 which is spaced inwardly of the outer end of sleeve 4 and the screws 6 so as to be in the path of longitudinal inward movement of such a bracket. Flange 12 is provided with a central opening 18 to permit electrical conductors 99, only one of which is shown, to extend therethrough. Although not shown, it is to be realized that conductors 99 extend outward of sleeve 4 so as to be secured to a suitable source of electrical energy in any well known manner.

The luminaire housing also has formed integrally therewith a pair of longitudinally extending reinforcing ribs, not shown, which extend generally longitudinally from the sleeve 4 of the housing, over the major part of the length of the ovate portion 2 in divergent relation to provide sufficient structural strength to support the ovate portion 2. The bottom opening of the ovate portion 2 is provided with an outwardly extending integral flange 14 which has a downwardly extending lip portion 16 at its outer edge. At the end of the ovate portion 2 opposite the sleeve 4, there are provided integral, spaced outwardly extending ears 20, only one of which is shown, for a purpose which will be hereinafter described.

A reflector 22 is adapted to be mounted within the ovate portion 2, and is formed of one piece of sheet material, and is generally of the same form as the ovate portion 2. Preferably, the reflector 22 is stamped from a single sheet of metal which is capable of being provided with good reflecting characteristics, such as aluminum sheet which can be polished and/or anodized to provide a good reflecting surface. Ovate portion 2 has a plurality of spaced, integral supporting bosses 24 depending from the inner surface thereof, which bosses 24 are internally threaded for receiving screws 26 which extend through aligned clearance openings in reflector 22 for mounting the reflector 22 in operative position in the ovate portion 2 of the housing.

As shown, the ovate portion 2 of the housing is provided with a lampholder supporting boss 34 integral with the housing which extends inwardly of the ovate portion

2. Boss 34 is located inwardly of the ovate portion 2 adjacent the inner end of sleeve 4 and extends laterally with respect to the sleeve 4. The central portion of the lower surface of boss 34 is arcuate in form with its center extending upwardly toward the upper wall of the housing so as to closely engage the upper curved surface of a cylindrical socket receiving portion 28 of a lampholder 30. Lampholder 30 may be formed from any suitable insulating material; however, it is preferably formed from a high dielectric strength molded porcelain. As shown, a curved strap 32, of any suitable material such as steel, extends around the lower curved surface of the socket receiving portion 28 of lampholder 30. Strap 32 is provided with a laterally outwardly extending flange portion 97 at each of its ends (only one of which is shown) which engages the laterally extending and spaced lower surfaces at each side of boss 34. Thereafter lampholder 30 may be secured to boss 34 by any suitable means such as screws 36, only one of which is shown, extending through the flanges of strap 32 and threadedly engaging upwardly extending openings (not shown) in the laterally extending lower surfaces of boss 34.

The socket portion 28 of lampholder 30 is provided with a cylindrical recess 38 which is open at its end facing the center of ovate portion 2. Recess 38 is of a size to receive a circular screw base socket 42 of any suitable material, such as a copper alloy, therein. The socket 42, as herein illustrated, is of the screw base type for receiving a lamp 46 having a screw base; however, if desired, other types of lamps having other types of bases could be employed by supporting a cooperable type socket in the recess 28 of lampholder 30. The lamp 46 is illustrated as being elongated in form and is preferably of the high intensity mercury type. The particular lamp 46 illustrated, when mounted in the socket 42 lies substantially on the longitudinal center line of the ovate portion 2 of the housing and the reflector 22, at or slightly above the lower edge of the reflector 22.

In most cases, it will be desirable to provide a refractor 54 over the bottom opening in the ovate portion 2 of the housing, which may be made of any desired transparent material, such as glass, and it may be additionally formed with various interior and/or exterior prisms for directing the light rays passing therethrough in the desired pattern. The upper open end of the refractor 54 has an integral outside rib 56 which is adapted to be engaged by a clamping band 58 which surrounds the upper open end of the refractor 54 and has laterally extending apertured ends 59 at one side of ovate portion 2 for receiving a clamping bolt 60 to securely clamp the band 58 to the upper end of the refractor 54.

The refractor 54 is adapted to be releasably supported in closed relation with the bottom opening in the housing by a pivot support at one end adjacent the sleeve 4, which comprises a pair of supporting arms 62 provided integral with clamping band 58 and joined at their outer ends by pivot pin 64 which is adapted to be removably mounted in a hook-shaped support 66 which is secured to the underside of the housing at the sleeve 4 in any desired manner, such as by mounting screws 68. There is also provided a leaf spring 70 which is secured to the clamping band 58 intermediate the pivot supporting arms 62, and which is engageable with a lip 61 formed integral with the housing.

At the other end of the housing and the refractor 54, the clamping band 58 for the refractor 54 is provided with an integral latch projection 72 extending outwardly therefrom for engagement with a movable latch 74, which is generally U-shaped in cross section. The movable latch 74 is adapted to be mounted on a pivot pin 76 extending between the supporting ears 20 on the housing 2, and is biased in a counterclockwise direction as viewed in Fig. 1 to latching position, by a coil spring 78 mounted on the pivot pin 76 and reacting against the housing and the movable latch 74 at its opposite ends, respectively. The movable latch 74 is also provided with a latch reset roller 80 mounted on a pin connecting the sides thereof, and with an integral latch projection 82 also located between the sides thereof, preferably formed with transverse ridges 84 on the upper side thereof. If desired, a light shield 86 of opaque material, such as aluminum or the like, may be inserted in the refractor 54 and held therein in any suitable way, such as by a frictional fit, toward the sleeve 4 end of the refractor 54 and housing.

The refractor bowl 54 is illustrated in Fig. 1 as being latched in position where its upper rim is in engagement with a sealing gasket 87, which in turn engages the lower flange 14 of the housing 2. Preferably the gasket 87 is of a weather-proof material, such as neoprene or the like, and is in compressed condition at the closed position of the refractor 54, to exclude the elements from the luminaire, and it will be observed that the downwardly extending lip 16 on the housing flange 14 further acts to protect the seal between the refractor bowl 54 and the housing 2. If it is desired to open the luminaire for lamp replacement or for cleaning purposes, it is merely necessary to release the movable latch member 74 by moving the lower end to the left as viewed in Fig. 1, until its latch projection 82 and reset roller 80 clear the latch projection 72 on the clamping band 58. Refractor 54 is then freed so that its pivot pin 64 can drop down to the bottom of the slot in bracket 66 and pivot downwardly about the pivot pin 64. During such downward movement the leaf spring 70, previously referred to, moves up and disengages the lip 61 on the housing. The refractor 54 may then be readily replaced by rotating it a further amount until flat surfaces on arms 62 are at a position to clear screws 68 whereupon the refractor 54 may be merely lifted to move its pivot pin 64 out of the slots in support 66 on the housing, and a new refractor 54 inserted in its place. Thereafter, the luminaire may be closed merely by swinging the refractor 54 back to the position shown in Fig. 1, and this results in automatically latching it in closed position, as the latch projection 72 on the refractor 54 will engage the reset roller 80 on the movable latch 74 during closing movement of the refractor 54, to move the movable latch member 74 in a clockwise direction and to enable the latch projection 72 to slip past the roller and latch projection 82, whereupon the biasing spring 73 for the movable latch member 74 will cause it to move back where its latch projection 82 engages beneath the latch projection 72 on the refractor 54, to thereby latch it in the closed position shown in Fig. 1 of the drawings. During closing movement of the refractor 54, the free end of spring 70 ultimately engages the lip 61 on the housing. Thereafter, pivot pin 64 is lifted in the slots of support 66 while pivotal movement continues about the free end of spring 70. When the adjacent edge of refractor 54 engages gasket 87, spring 70 is stressed, and the gasket is placed under spring pressure.

It will be noted that the construction of the housing 2, refractor 54, a portion of sleeve 4, and various cooperating members therewith is similar to those elements which are more completely shown, described, and claimed in the copending application entitled "Luminaire," filed December 31, 1952, Serial No. 328,958, by Robert W. Loehr, which has been assigned to the same assignee as this invention.

Lampholder 30 is provided with a wire receiving portion 88, which may be generally rectangular in form and which extends longitudinally outward from the socket receiving portion 28 of lampholder 30 into the inner end of sleeve 4. Wire receiving portion 88 of lampholder 30 extends towards the flange 12 within sleeve 4 so as to define generally a chamber 52, in conjunction with the walls of sleeve 4, in which a film receptacle 40 and a film holder 90 are located. Wire receiving portion 88 is provided with three laterally spaced rectangular recesses 44, only one of which is shown, which extend inwardly

from the end of wire receiving portion 38 of lampholder 30 and which have their inner ends spaced from socket 42 in the socket receiving portion 28 of lampholder 30. Although not shown, a center contact of well known construction and electrical conducting material, such as a copper alloy, is located within socket 42 and is provided with a portion which is normally spaced from the inner end of the central recess 44. Such portion of such a center contact may be secured to the lampholder in any suitable manner such as by means of a screw 156 extending through a suitable opening extending from the recess 38 into the central recess 44. An elongated terminal 48, of any suitable electrical conducting material such as a copper alloy, is located within central recess 44 and is provided with a central threaded opening to engage the extending end of screw 156 whereby the center contact is clamped to the base of recess 38 and is electrically separated from the socket 42. The other end of terminal 48 is provided with a suitable opening so that the stripped end of a suitable electrical conductor 92 may be secured to the other end of terminal 48 in any suitable manner, such as by soldering. Either of the other recesses 44 may be employed to similarly make an electrical connection to an inwardly extending flange portion (not shown) on socket 42 which is located in engagement with the base of recess 38. In order to additionally secure socket 42 to lampholder 30 the third recess 44 may be utilized to engage the flange portion of socket 42 in a similar manner. By such construction the electrical connections of the conductors 92 to the lampholder 30 are surrounded by high strength dielectric material so as to prevent any likelihood of voltage flashover from the conductors to the lower potential of the luminaire housing.

Referring to Figs. 1, 4 and 5, the film receptacle 40 is formed from any suitable insulating material such as a molded, glass fibre reinforced, polyester resin. As shown, film receptacle 40 is provided with a generally rectangular central section 5 which has a reduced generally rectangular projection portion 7 extending outwardly from one side of the central section 5. The outer portion of projection 7 has molded therein a pair of spaced inserts 9, which may be of any suitable material such as steel, so that inserts 9 may be provided with a central threaded opening 11. A mounting strap 23, which may be made of any suitable material such as steel, is provided which extends over the outer ends of inserts 9. Receptacle 40 may then be easily secured to strap 23 in any suitable manner, such as by bolts, extending through aligned clearance openings in strap 23 and threadedly engaging inserts 9. A pair of laterally spaced bosses, not shown, are formed integral with the portion of the upper wall of sleeve 4 which forms chamber 52, which bosses extend inwardly approximately centrally of chamber 52. Thus, receptacle 40 may easily be secured to sleeve 4 within chamber 52 by any suitable means, such as bolts extending through clearance openings at the ends of strap 23, which are in alignment with the inner ends of such bosses, respectively, and threadedly engaging openings in the bosses.

The other side of film receptacle 40 is provided with an open ended slot 15 adjacent each of its ends each of which slots 15 extend between opposite sides of the film receptacle 40. An elongated electrical connector block 17, of any suitable electrical conducting material, such as a copper alloy, is closely received longitudinally within each slot 15. As shown, each connecting block 17 is centrally secured to the central section 5 of the film receptacle 40 by means of a bolt 19 extending through a central clearance opening 25 in each connector block 17 which threadedly engages an insert 9 centrally located within each slot 15. Each connector block 17 is also provided with a longitudinally inward extending opening 21 at each end thereof for receiving the stripped end of electrical conductors 92 or 99. In order to insure a good electrical connection between such inserted

conductors, a threaded opening is provided adjacent each end of each connector block 17, which extends laterally outward from the adjacent opening 21 through the outer portion of connector block 17, in which a bolt 27 is threaded so as to engage such an inserted conductor and secure the conductor in firm engagement with block 17.

The other side of the film receptacle 40 is also provided with a centrally located open ended slot 29 which also extends between its sides and is spaced inwardly of each slot 15 so as to form an outwardly extending barrier 37 therebetween. Slot 29 is provided with a central recess 77 which extends into projection 7 of the receptacle 40 to provide sufficient space to receive a portion of the film holder 90 hereinafter described. Slot 29 is also somewhat wider than slots 15 to receive the free ends of a pair of resilient electrical conducting single leaf springs 31 therein, which may be formed from any switch material having such characteristics, such as phosphorus bronze. As shown, each spring 31 has an outer leg 33 having a clearance opening therein in alignment with opening 25 in one of the connector blocks 17 so that a spring 31 may be both electrically and mechanically secured to the outer surface of each of the connector blocks 17 by means of bolts 19. Each leg 33 extends inwardly from its cooperable connector block 17 towards the central slot 29, and in order to provide clearance for leg 33 a notch 35 is centrally provided in the outer end of each barrier 37, each of which is of a length to freely receive a leg 33 of spring 31 therein. The initial portion of each spring 31 within slot 29 is arcuate in form and, extends inwardly of slot 29. Thereafter each spring 31 is formed with an inwardly extending portion having an elongated inwardly extending face 39, the inner ends of which are normally biased into engagement with each other. If desired, the free end of spring 31 within slot 29 may be bent outwardly from each other to prevent sticking therebetween. Also if desired, slot 29 may be provided with an outwardly extending barrier 41 which extends laterally between the sides of the slot 29 at each end of notches 35 to provide additional electrical arcing protection when film holder 90 is withdrawn as hereinafter described. Further, it will be noted that each slot 15 is spaced inwardly from the adjacent outer end of the film receptacle 40 to provide a substantial outwardly extending barrier 43 at each side of film receptacle 40 to prevent any voltage flashover between the connector blocks 17 and the lower potential luminaire housing.

Referring now to Figs. 1, 2 and 3, film holder 90 is formed of a material similar to film receptacle 40 and is approximately the same outer size as film receptacle 40. Film holder 90 is provided with a central section 45 having a projection 47 thereon extending outwardly from one side of central section 45. The outer end of projection 47 is provided with a pair of inserts 9 so that the film receptacle may be secured to a door 100, hereinafter described. A centrally located triangular spring support 49 extends outwardly, to approximately a point, from the other side of the central section 47 of film holder 90. Central segment 47 is also provided with inserts 9 at each lateral side of support 49. A pair of formed single leaf springs 51, which may be similar in material to springs 31 previously discussed, are provided, each of which has an outer leg 53 which is secured to inserts 9 at each side of support 49 by bolts 55 in a manner as previously discussed. Springs 51 have angularly outwardly extending portions 57 which engage opposite sides of the triangular support 49, respectively, and are each joined to a laterally outwardly extending prong portion 63. Prong portions 63 are formed and spaced laterally a distance at least less than the thickness of a film cutout so as to frictionally support a film cutout 65 therebetween. Film cutout 65 may be of any well known wafer type construction comprising at least a pair of laterally spaced conducting members which are separated by an insulating material. If desired, a plurality of lat-

erally spaced conducting members may be used, each of which is separated from its adjacent conducting member by an insulating material. Regardless of which type of film cutout is employed, the insulating material is such that a breakdown of the insulating material will occur when a certain minimum value of voltage is applied across the conducting members in engagement with the prong portions 63 so that an electrical current can flow across the cutout 65. If desired, the sides of support 49 may be provided with a groove 3 to closely receive the extending portion 57 therein to insure that portions 57 are properly supported on film holder 90.

Referring to Fig. 1 it will be noted that the lower portion of the sleeve 4 forming the chamber 52 is provided with an enlarged generally rectangular opening 67 which is elongated along the longitudinal axis of sleeve 4. Opening 67 is adapted to be closed by means of a door 100 which is formed from any suitable material, such as an aluminum alloy, for the same reasons as housing 2. Door 100 is slightly larger both laterally and longitudinally than opening 67 so that it extends beyond each side and end of opening 67 and engages the outer surface of the lower portion of sleeve 4. Accordingly, such cooperating lower surface on the lower portion of sleeve 4 is preferably formed so as to be flat so that the door 100 may easily be formed in a flat form. In order to secure door 100 to sleeve 4, door 100 is provided with a pair of generally L-shaped longitudinally spaced formed spring catches 69, the short legs of which rest against the inner surface of door 100 and are secured thereto in any suitable manner, such as by being riveted thereto. The elongated legs of spring catches 69 extend upwardly into the cavity 52 and are provided with a straight portion which engages the opposite inner longitudinal spaced ends of opening 67. The upper ends of the elongated legs of spring catches 69 are provided with an outwardly extending hook portion 71. Door 100 is also provided with a pair of laterally spaced openings 83 which are in alignment with the spaced inserts 9 in the projection 47 of film holder 90 so that film holder 90 may be secured to door 100 by means of bolts 73 extending through openings 83 and threadedly engaging the inserts 9. Further, it will be noted that the end of door 100 adjacent the bracket receiving portion of sleeve 4 is provided with an angularly downward extending flange 75.

As shown in Fig. 1, film receptacle 40 is secured within cavity 52 of sleeve 4 so that the slots 15 and 29 extend longitudinally within sleeve 4 whereby a pair of spaced conductors 92 from lampholder 30 and a pair of spaced supply conductors 99 extending through opening 18 may be readily inserted into laterally spaced openings 21 at opposite ends, respectively, of the connector blocks 17 so that connector blocks 17 are electrically and mechanically secured to each side of the supply line and the lamp 46. Film receptacle 40 is also secured within cavity 52 so that the open side of slots 15 and 29 extend towards opening 67, whereby the conductors 92 and 99 may easily be secured to the connector blocks 17 as indicated from the underside of the luminaire through opening 67.

As shown in Fig. 5 each spring 31 is formed so that at least a part of the opposed faces 39 are normally biased into engagement with each other. As each spring 31 is electrically and mechanically secured to a connector block 17 such engagement of springs 31 constitutes an electrical shunt circuit across the supply conductors 99. Thus, when springs 31 are in engagement with each other the conductors 92 are shunted so that the lamp portion of the luminaire may be serviced without undue electrical hazard. Springs 31 are also designed to carry the normal current in a series street lighting circuit for luminaires of this type.

In order that lamp 46 may be energized and in order to protect the continuity of a series circuit, faces 39 of springs 31 are forced apart to break the shunt circuit by means of the prong portions 63 of springs 51 which prong portions 63 are electrically and mechanically separated by means of film cutout 65 located therebetween. As indicated, film holder 90 is secured to door 100 so that the prong portions 63 of springs 51 extend inwardly of chamber 52. When door 100 is located to cover opening 67, each prong portion 63 engages the upwardly curved portion of one of the springs 31 so that upon forcing prongs 63 upwardly the curved portions of springs 31 are forced apart with each of the faces 39 of springs 31 engaging the outer surface of one of the prong portions 63 as shown in Fig. 6. When film receptacle 40 and film holder 90 are so located, it will be noted that conductors 92 are energized as the shunt circuit of springs 31 is broken with the film cutout 65 being electrically located between the spaced faces 39 of springs 31. The operation of a luminaire of this construction in the series circuit is the same as that of any series type luminaire. That is, when the lamp is energized it is a conducting part of the series circuit until such time as the lamp fails to remain energized. Under such conditions, the voltage applied across the film cutout will cause the film cutout to break down so that it supplants the lamp as a conductor in the series circuit in order to maintain the continuity of the series circuit. The film cutout will also break down in the event that the lamp does not become energized when a voltage is first impressed across the lamp.

As has been indicated, film holder 90 is secured to door 100 so that film cutout 65 is forced between springs 31 when door 100 is located to cover the opening 67. As can be appreciated, it is quite desirable that such insertion of the film cutout 65 be accomplished in a manner such that it is unnecessary to align the prong portions 63 of the springs 51 with springs 31 in the film receptacle 40. Thus, as shown in Fig. 1, it will be noted that the spring catch 69 located adjacent the lamp-holder 30 engages the end of opening 67 adjacent the lamp-holder 30 so that the door 100 is located in a definite fixed relationship longitudinally with respect to the film receptacle 40. The upwardly curved portions of springs 31 engage at least one of the upper edges of one of the prong portions 63 to align the prong portions 63 laterally with respect to film receptacle 40 so that upon moving door 100 upwardly such insertion of the film cutout 65 as described will occur automatically. Upon further upward movement of door 100, it will be noted that the spring catch 69 adjacent the bracket receiving portion of sleeve 4 engages the other end of the opening 67 in the well known latch manner. Recess 77 extends longitudinally within film receptacle 40 a distance somewhat greater than the width of prong portions 63, so that the distance film holder 90 is spaced from film receptacle 40 is not critical once faces 39 of spring 31 engage prong portions 63, as the prong portions 63 can be forced inwardly into recess 77.

As can be easily appreciated upon break down of a film cutout 65 to shunt the lamp 46 from the circuit, it is necessary that the film cutout be replaced after the luminaire has been serviced to insure that the lamp 46 can be energized again. Replacement of the film cutout is accomplished by first pulling down on the flange 75 of the door 100 which releases the spring catch 69 adjacent the flange 75 and allows the cover door 100 to drop free from the opening 67 and simultaneously remove the film cutout 65 from between the faces 39 of springs 31 so that the shunt circuit of springs 31 is reestablished automatically by the bias of the springs 31. With the film holder 90 removed, it is a simple matter to eject the film cutout 65 from between the prong portions 63 of springs 51 and insert a new film cutout 65 therebetween. Although film cutout replacement is best made when the complete series circuit is deenergized because of the high voltage existing between the electrical parts of the luminaire, such electrical hazard may be minimized by

grounding the luminaire housing and the cover door to the luminaire housing. Such grounding of the door **100** to the luminaire may be accomplished in any one of several suitable ways such as by being permanently hinged to the luminaire or by means of a separate conductor connected to the door **100**.

As previously pointed out, it is desired that this invention be not limited to the particular form of luminaire specifically described herein, as it will be readily apparent to persons skilled in the art that various changes and modifications may be made in this particular construction without departing from the broad spirit and scope of this invention. Accordingly, it is desired that the invention be given a broad scope, and that it be limited only as required by the prior art.

We claim as our invention:

1. A luminaire comprising a dished housing, said housing having an elongated rigid hollow sleeve extending laterally outwardly from said housing adjacent the open side thereof, said housing having an opening communicating with said sleeve, securing means adjacent the outer end of said sleeve for securing said sleeve to a support, lampholding means mounted in said housing at a point adjacent said opening and spaced inwardly of said securing means for supporting a light source and to provide a space in an intermediate portion of said sleeve between said securing means and said lampholding means, an opening in the wall of said portion of the sleeve facing in the same direction as the open side of said housing, a film receptacle mounted in said portion of the sleeve and having normally engaged separable contacts connected to said lampholding means and exposed to said sleeve opening, a film holder of a size to be insertable through said sleeve opening and having film contacts thereon engageable with said receptacle contacts to separate the latter when the holder is at its operative position in said sleeve portion, and means for releasably holding said film holder at said operative position.

2. A luminaire comprising a dished housing, said housing having an elongated rigid hollow sleeve extending laterally outward from said housing adjacent the open side thereof, an opening in said housing communicating with said sleeve, securing means adjacent the outer end of said sleeve for securing said sleeve to a support, lampholding means mounted in said housing at a point adjacent said opening and spaced inwardly of said securing means for supporting a light source and to provide a space in an intermediate portion of said sleeve between said securing means and said lampholding means, an opening in the wall of said portion of the sleeve facing in the same direction as the open side of said housing, a film receptacle mounted in said portion of the sleeve and having normally engaged separable contacts connected to said lampholding means and exposed to said sleeve opening, a film holder of a size to be insertable through said sleeve opening and having film contacts thereon engageable with said receptacle contacts to separate the latter when the holder is at its operative position in said sleeve portion, a door member of a size to cover said opening in said sleeve, means on said door member engageable with said sleeve for releasably securing said door member over said opening in said sleeve, and said film holder being secured to said door member to engage said film receptacle when said door member is secured to said sleeve.

3. A luminaire comprising a dished housing, said housing having an elongated rigid hollow sleeve extending laterally outwardly from said housing adjacent the open side thereof, said housing having an opening communicating with said sleeve, securing means adjacent the outer end of said sleeve for securing said sleeve to a support, lampholding means mounted in said housing at a point adjacent said opening and spaced inwardly of said securing means for supporting a light source and to provide a space in an intermediate portion of said sleeve between said securing means and said lampholding means, an opening in the wall of said portion of the sleeve facing in the same direction as the open side of said housing, a film receptacle mounted in said portion of the sleeve and having normally engaged separable contacts connected to said lampholding means and exposed to said sleeve opening, said film receptacle having terminals located at the opposite sides of the said receptacle facing opposite ends of said sleeve, respectively, for receiving electrical conductors from an electrical source and the lampholding means, respectively, and a film holder being of a size to be insertable through said opening in said sleeve to engage said film receptacle.

4. A luminaire comprising a dished housing, said housing having an elongated rigid hollow sleeve extending laterally outwardly from said housing adjacent the open side therof, said housing having an opening communicating with said sleeve, securing means adjacent the outer end of said sleeve for securing said sleeve to a support, lampholding means mounted in said housing at a point adjacent said opening and spaced inwardly of said securing means for supporting a light source and to provide a space in an intermediate portion of said sleeve between said securing means and said lampholding means, an opening in the wall of said portion of the sleeve facing in the same direction as the open side of said housing, a film receptacle having a body of insulating material mounted in said portion of the sleeve and having normally engaged separable contacts mounted on said body and connected to said lampholding means and exposed to said sleeve opening, a metal door member of a size to cover said opening in said sleeve, means on said door member engageable with said sleeve for removably securing said door member over said opening in said sleeve, and a film holder having a body of an insulating material secured to said door member to engage said film receptacle when said door member is secured to said sleeve.

5. A luminaire comprising a dished housing, said housing having an elongated rigid hollow sleeve extending laterally outwardly from said housing adjacent the open side thereof, said housing having an opening communicating with said sleeve, securing means adjacent the outer end of said sleeve for securing said sleeve to a support, lampholding means mounted in said housing at a point adjacent said opening and spaced inwardly of said securing means for supporting a light source and to provide a space in an intermediate portion of said sleeve between said securing means and said lampholding means, an opening in the wall of said portion of the sleeve facing in the same direction as the open side of said housing, a film receptacle mounted in said portion of the sleeve and having contacts extending arcuately toward each other away from said opening and into engagement, said contacts being connected to said lampholding means and exposed to said sleeve opening, said contacts being engaged along an axis substantially parallel with the longitudinal axis of the sleeve, a metal door member of a size to cover said opening in said sleeve, means on said door member engageable with said sleeve for removably securing said door member over said opening in said sleeve, said means pivoting said door member about an axis substantially at a right angle to the axis of engagement of said contacts, a film holder secured to said door member, said film holder having an extending prong, said extending prong engaging said film receptacle resilient contacts essentially at their axis of engagement.

6. A film receptacle comprising an insulating body having a slot completely across the insulating body, said slot forming substantially parallel barriers on the insulating body, grooved recesses formed in said barriers and extending substantially parallel to said slot, substantially elongated conducting members secured in said recesses, said recesses being of a depth sufficient to receive the elongated conducting members, each of said conducting members having apertures extending inwardly from its

opposite ends to receive and securely hold electrical conductors from opposite directions, resilient means secured to each of said electrical conducting members intermediate the ends thereof, and said resilient means having a portion extending outwardly of said conducting members and inwardly of said insulating body into the recess formed by the slot in the insulating body to resiliently engage each other.

7. A luminaire comprising a dished housing, said housing having an elongated rigid hollow sleeve extending laterally outwardly from said housing adjacent the open side thereof, said housing having an opening communicating with said sleeve, securing means adjacent the outer end of said sleeve for securing said sleeve to a support, lampholding means mounted in said housing at a point adjacent said opening and spaced inwardly of said securing means for supporting a light source and to provide a space in an intermediate portion of said sleeve between said securing means and said lampholding means, an opening in the wall of said portion of the sleeve facing in the same direction as the open side of said housing, a film receptacle mounted in said portion of the sleeve and having normally engaged separable contacts connected to said lampholding means and exposed to said sleeve opening, said film receptacle having a pair of spaced terminal strips mounted on an insulated portion of the receptacle and connected to said contacts, respectively, said terminal strips being substantially parallel to the longitudinal axis of said hollow sleeve, terminals at each end of said terminal strips to receive electrical conductors leading to the outer end of the sleeve and to said lampholding means, respectively, said terminal strips being a direct coupling between the said terminals, a film holder of a size to be insertable through said sleeve opening and having film contacts thereon engageable with said receptacle contacts when in its operative position in said sleeve portion, and means for releasably holding said film holder at said operative position.

8. A luminaire comprising a dished housing, said housing having an elongated rigid hollow sleeve extending laterally outwardly from said housing adjacent the open side thereof, said housing having an opening communicating with said sleeve, securing means adjacent the outer end of said sleeve for securing said sleeve to a support, lampholding means mounted in said housing at a point adjacent said opening and spaced inwardly of said securing means for supporting a light source and to provide a space in an intermediate portion of said sleeve between said securing means and said lampholding means, an opening in the wall of said portion of the sleeve facing in the same direction as the open side of said housing, a film receptacle detachably mounted in said portion of the sleeve and having normally engaged separable contacts connected to said lampholding means and exposed to said sleeve opening, said receptacle having securing means to releasably secure said receptacle to the inside wall of said hollow sleeve opposite said opening in said sleeve, said opening in the sleeve of a size to accommodate the free passage of said receptacle, said releasable securing means exposed to said opening, a film holder having film contacts engageable with said receptacle contacts when in its operative position in said sleeve portion, and means for releasably holding said film holder at said operative position.

9. A luminaire comprising a dished housing, said housing having an elongated rigid hollow sleeve extending laterally outwardly from said housing adjacent the open side thereof, said housing having an opening communicating with said sleeve, securing means adjacent the outer end of said sleeve for securing said sleeve to a support, lampholding means mounted in said housing at a point adjacent said opening and spaced inwardly of said securing means for supporting a light source and to provide a space in an intermediate portion of said sleeve between said securing means and said lampholding means, an opening in the wall of said portion of the sleeve facing in the same direction as the open side of said housing, a film receptacle mounted in said portion of the sleeve and having normally engaged separable contacts connected to said lampholding means and exposed to said sleeve opening, terminals electrically connected to said contacts and mounted on said receptacle at the opposite sides facing the opposite ends of said sleeve, respectively, and exposed to said sleeve opening so that electrical connections can be made to said receptacle terminals through said sleeve opening.

References Cited in the file of this patent

UNITED STATES PATENTS

Re. 14,341	Jones	Aug. 7, 1917
1,402,037	Armor	Jan. 3, 1922
1,761,496	Sheperd	June 3, 1930
1,872,285	Haverstick	Aug. 16, 1932
1,873,500	Steinmayer	Aug. 23, 1932
1,976,657	Cole	Oct. 9, 1934
2,232,857	Jackson	Feb. 25, 1941

FOREIGN PATENTS

13,485	Great Britain	Aug. 27, 1890