B. J. AND O. E. GRIGSBY.

LIGHTING FIXTURE.

APPLICATION FILED FEB. 23, 1917.

1,330,585.

Patented Feb. 10, 1920.

2 SHEETS—SHEET 1.

FIG. 1.

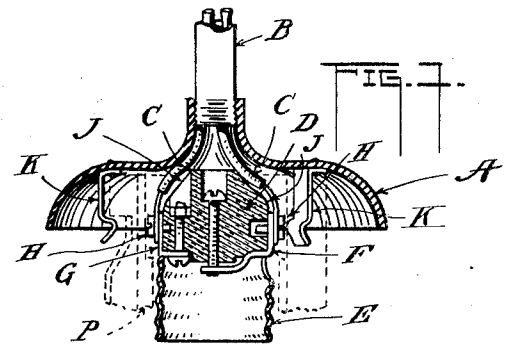


FIG. 3.

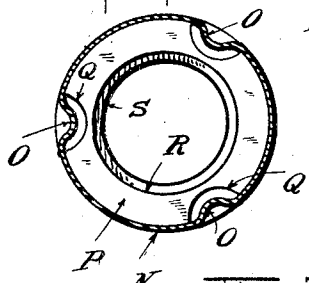


FIG. 4.

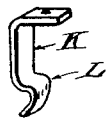


FIG. 2.

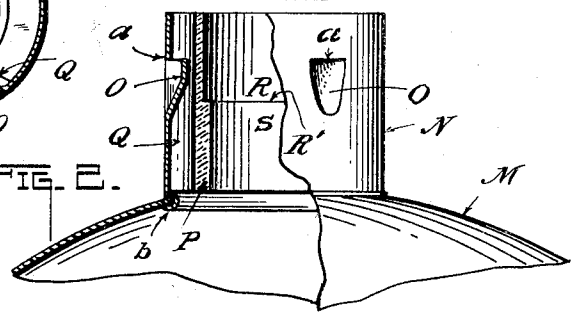


FIG. 6.

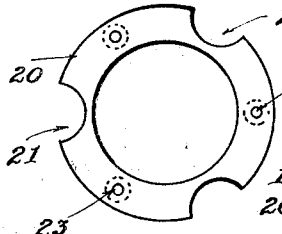


FIG. 7.

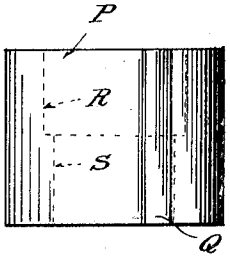
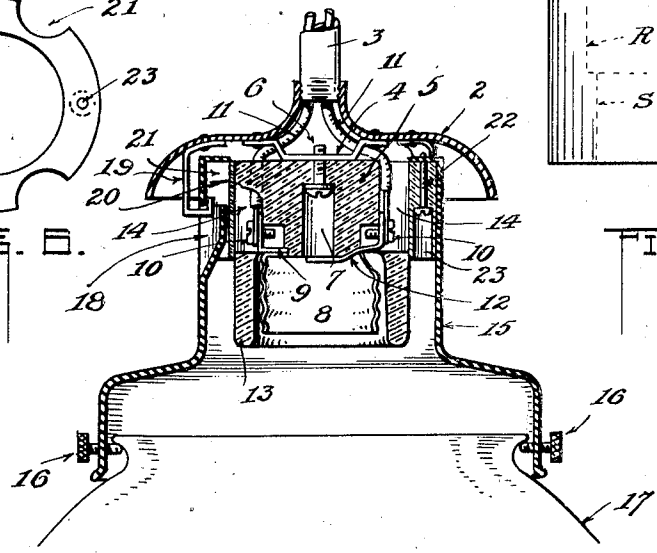


FIG. 5.



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2 SHEETS—SHEET 2.

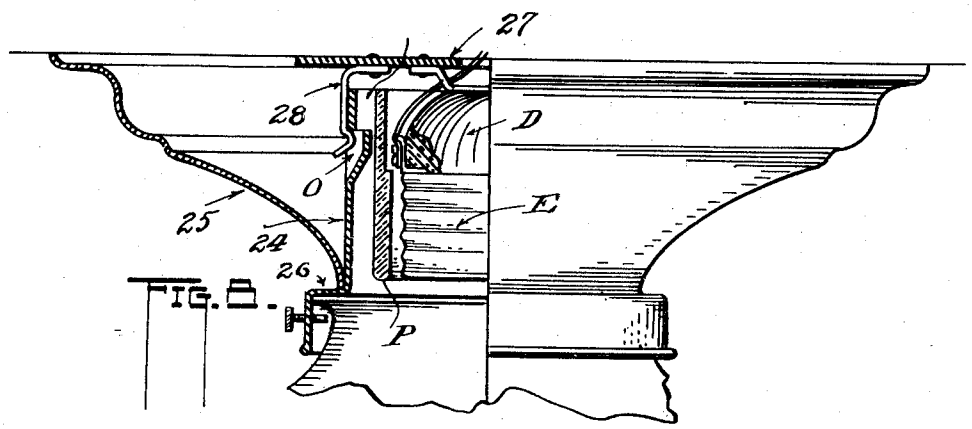
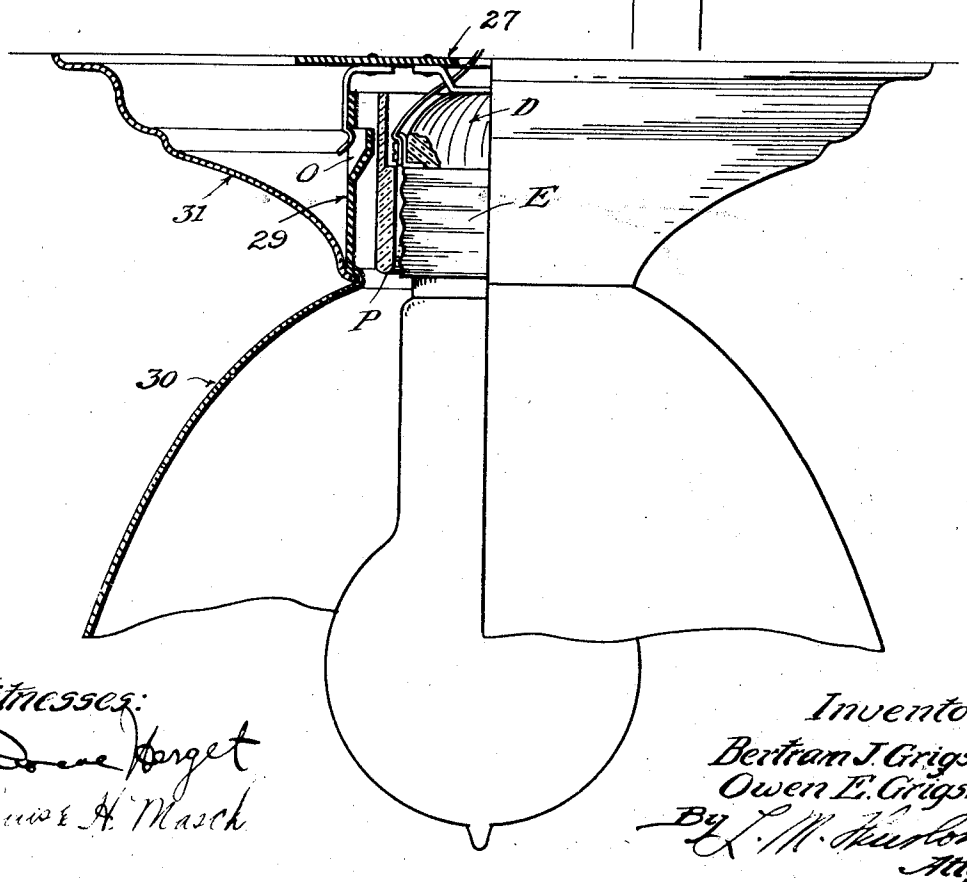


FIG. 8.

FIG. 9.



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UNITED STATES PATENT OFFICE.

BERTRAM J. GRIGSBY AND OWEN E. GRIGSBY, OF PEORIA, ILLINOIS.

LIGHTING-FIXTURE.

1,330,585. Specification of Letters Patent. Patented Feb. 10, 1920.

Application filed February 23, 1917. Serial No. 150,559.

To all whom it may concern:

Be it known that we, BERTRAM J. GRIGSBY and OWEN E. GRIGSBY, citizens of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Lighting-Fixtures; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to lamp fixtures in general and particularly to an electric lamp fixture wherein is employed a novel means for quickly attaching and detaching the shell or casing of the lamp socket which itself supports and carries a shade holder or reflector, or which also is adapted to support the usual canopy where the lamp is suspended from the ceiling.

One of the objects of the invention is to provide a novel manner of combining with an electric lamp socket a shade or reflector or globe, the construction being such that the said reflector, shade holder or globe may be readily placed in position or detached without requiring holding screws or other like holding parts.

Another object is to provide a structure for an electric lamp socket wherein a shade holder may be readily attached, its removal fully exposing the terminals of the conducting wires and which when replaced will entirely cover and protect said terminals from all danger of short-circuiting.

Still another object is to provide a structure of the class described in which the terminal wires and the binding screws for the same can be instantly exposed without taking down the entire structure and whereby the various parts can be readily reached.

In addition, an object is to provide new forms of supporting structures for a reflector, shade or globe, whether used with electric lamps or other sources of illumination.

A still further object is to provide a fixture so arranged, when the lamp is suspended from the ceiling, that the shell or casing inclosing the lamp socket may, in acting also in the capacity of a holder for a reflector or a shade, likewise act to support the socalled canopy which covers the parts of the structure from view.

In bringing out the invention it is the purpose, besides the above, to furnish a structure whose parts will be proof against deterioration by atmospheric action; that will be weather-proof in that it will not allow moisture to enter or come in contact with the current carrying parts; that the current carrying parts will be so inclosed and insulated that there will be no danger of shocks to persons handling them, and that there will be furnished a construction by which convenient and ready access to the terminals of the leading-in-wires is possible.

Devices of this class of which we are aware do not have all these desirable features but such features are combined herein in a very simple construction that can be produced at low cost.

To the end that the invention may be understood, the accompanying drawing is provided in which two embodiments of the invention are shown as indicating the manner in which the desired objects may be accomplished, it being understood that slight changes may be made without departing from the inventive idea.

Figure 1 is a sectional elevation of a lamp socket and means of securing or attaching a shade holder, shade, reflector or the like.

Fig. 2 is an elevation in part section of a portion of the shade and an upper terminal extension to engage the attaching means illustrated in Fig. 1.

Fig. 3 is a horizontal section of the upper terminal extension shown in Fig. 2.

Fig. 4 shows, in perspective, one of the spring members or fingers.

Fig. 5 is a sectional elevation of a slightly modified form of socket and shade holding means.

Fig. 6 is a plan of an insulating sleeve shown in Fig. 5.

Fig. 7 is an elevation thereof.

Fig. 8 is a partial sectional elevation of a lamp socket and shade holding means showing the manner of supporting a "canopy"; and

Fig. 9 is a similar view showing the shade holding or reflector holding means the shade or reflector and the canopy as a united structure.

Referring to Fig. 1, A indicates a cap having threaded into its upper portion a supporting part or conduit B, for example, through which is carried the conducting wires C. D is the base portion for a lamp

socket of porcelain or suitable insulating material, E indicating a socket or shell of the Edison type for receiving the lamp, not shown.

F and G are the usual terminal members to which the wires C C are connected by the usual screws H, the said base being recessed at J, for example, to permit the conducting wires C to be carried to the said screw.

K indicates a series of spring fingers secured to the under surface of the cap A and having inwardly extending shoulder portions L clearly shown in Fig. 4, the shoulder being preferably convex in form complementary to the concave depression O.

In Fig. 2, M indicates a portion of a shade or reflector to the top of which is secured, or from which may extend as an integral part, a casing N provided with depressed portions O formed by shearing the metal at *a*, for example, and forcing the said portions O inwardly so that they take up the position substantially shown in Fig. 3. These depressed portions may correspond in number to the spring fingers K or may be multiples of said fingers.

P is a sleeve of porcelain or other insulating material snugly fitting within the casing N and having a series of grooves Q extending longitudinally thereof, in its outer surface, to receive the described inwardly extending portions O, see Fig. 3, as well as to furnish ventilating passages.

The said sleeve is provided with two bores R S of different diameters, the upper one being largest, and when placed in position as indicated in broken lines as in Fig. 1 the sleeve covers the terminal screws H so as to eliminate chance of short circuiting, the smaller bore S receiving and likewise covering the threaded shell E.

Any means may be adopted for suspending the base D from the cap A although the conducting wires C may be sufficient for this purpose since there is no weight to be supported except that of said base and its shell E until finally assembled when it rests on the shoulder R′ of the sleeve P.

In attaching the shade, in which the sleeve P is preferably permanently held, and which may rest upon any bead portion of the shade such as *b*, it is pushed up between the spring fingers K, the shoulder L of the latter entering the recesses of the shade whereby the latter is positively held. Since the bottoms of the recesses are of concave form, in order to remove the casing N it is merely necessary to slightly rotate it with the result that the fingers K ride out of the depressions upon the outer surface of the casing whereupon the latter can be drawn away from the direction of the cap A thereby at the same movement exposing all of the parts of the base D and its shell E.

In Fig. 5 the cap 2 corresponds to A while the conduit 3 corresponds to B. 4 is a strap secured to the under side of the cap and 5 is the lamp base suspended from said strap by means of a screw 6, for example, which lies in the bottom of a recess 7 of said base.

8 is the usual threaded shell secured in suitable manner to the base 5 and having a terminal portion 9 provided with the screw 10 for one of the conducting wires 11, the other terminal being represented at 12.

In this form of base there is an integral depending sleeve 13 surrounding the shell above which are grooves 14 to receive the terminals of the said wires at 11 and the terminal screws 10. 15 is the casing corresponding to N provided at its lower extremity with one or more screws 16, for supporting a globe, reflector or shade 17.

The casing 15 is furnished with depressed portions 18 corresponding to O in Fig. 2. 19 are spring fingers secured to the cap 2 and of slightly different construction from those shown in Fig. 1 in that their terminal ends are bent upwardly thereby providing hooks upon which the casing 15 is suspended, said ends passing through the openings formed by shearing the metal as described with reference to the shell N.

In detaching the casing 15 so as to remove it from the cap 2 it is first pushed up into the cap a distance sufficient to permit the parts of the casing to clear the upturned ends. Then by rotating said casing the fingers are made to ride up upon its cylindrical portion whereupon said casing may be withdrawn.

20 is an insulating sleeve somewhat the same as that shown in Fig. 3 and is provided with grooves 21 to receive the described portions 18 and also for providing for ventilation as before. This sleeve is secured in the casing by means of one or more screws 22 extending through holes 23 in the sleeve and threaded into an overturned portion of the casing 15. Other means of securing said sleeve in position may be resorted to however.

Said sleeve 20 answers in the same capacity as the sleeve P—that of fully protecting the terminal screws 10 and exposing them upon the removal of said casing as described.

The depressions in the metal which receive the fingers K, 19, besides serving as the securing means for the casing provide means through which the heat may escape after arising through the grooves Q, 21, of the sleeves P, 20.

The structures described herein are adaptable for many forms of fixtures especially as regards the attaching means for the reflector or shade and whether or not it is used for electric fixtures for lighting by electricity or for other kinds of illuminant,

being particularly adapted for large and heavy structures often required in lighting large areas.

The structure will be found an economical advantage in that interchangeability of reflectors and globes may be quickly made. For example, if the caps A, 2 happen to be in use with a particular style or size of shade, globe, or reflector and it is desired to change the latter for other sizes or styles the change can be readily made without disturbing the electrical connections.

Also, a standardization of the parts results in a reduction of investment in respect to the stock necessary to be carried, having regard to the wide range of sizes and types common to the requirements of the trade.

It is well known to those familiar with lighting fixtures that in order to "take down" the parts for changes or repairs it is first necessary to turn one or more screws in order to remove the shade or globe or similar part and then in order to get at the terminals it is again required to remove or turn one or more screws so as to release the covering shell of the fixture. This requires time and care and often the inconvenience of loss of the screws attends such work.

In our device, however, the mere rotation of the casings N, 15, relatively to the fingers K, 19, results in the ready separation of said casings together with the simultaneous removal of the shell covering the socket terminals. The latter being now exposed to view also lies in a position conveniently in reach of the screw-driver.

Fig. 8 shows a casing 24 substantially the same as that shown at 15 in Fig. 5 and in addition to supporting the parts M, 17 of Figs. 2 and 5 it supports a canopy 25 which is that member usually employed with lighting fixtures to lie against the ceiling for covering the outlet box or other parts, the contracted lower edge of said canopy snugly fitting around said casing 24 and resting on the flared portion or shoulder 26 thereof.

In this figure a plate 27 is secured to the ceiling or to the outlet box, not shown, and carries the springs 28 which correspond to K and 19 of the other figures.

In Fig. 9 the casing represented at 29 is continued into a shade, reflector or other desired part 30, as in Fig. 2, for example, the lower edge of the canopy 31 being rolled into the parts just described to constitute a unitary structure, or said canopy may be a separate part and rest upon the part 30 as in Fig. 8, if desired, all being within the meaning of our invention.

In Figs. 1 and 5 where the described structures are suspended from the supporting conduit B the canopy, of course, may also be used and may rest upon the part M or the casing 15.

This provision of thus supporting the canopy is one of considerable importance, it being clear that when the casing is separated from the supporting structure the canopy will likewise come away with it exposing the electric terminals and other parts, the time required to remove the whole being but a moment.

By this arrangement where the canopy is a part separate from the casing it may be of any size and form but uniform as to the diameter of the opening receiving the casing. However, the canopy may rest upon the shade or other part carried by the casing if desired, said shade or part being suitably arranged for centering said canopy thereon.

Where indirect lighting is employed a reflecting medium may be held in place in substantially the same manner as the canopy against which the light may be cast. It is thus seen that the method of supporting a canopy is not limited to a canopy alone.

We claim:

1. A fixture of the character described including in its construction a lamp receptacle, a support for the receptacle having an overhanging covering portion spaced above the latter providing an open entirely free air space, said portion being of greater diameter than such receptacle, the latter having terminals exposed below said portion, a shade holder including a shell to inclose the receptacle, and coacting parts on the shell and said portion to engage one another and suspending the former from the latter in spaced relation, one of said parts being resilient.

2. A fixture of the character described including in its construction a lamp receptacle, a support for the receptacle having an open entirely free air space, said portion being of greater diameter than such receptacle, the latter having terminals exposed below said portion, a shade holder including a shell to inclose the receptacle and spaced therefrom to provide a passage communicating with the space between the latter and said portion, and coacting parts on the shell and said portion to engage one another suspending the former from the latter in spaced relation, one of said parts being resilient.

3. A fixture of the character described including in its construction a supporting part, an electric lamp socket suspended beneath it having exposed electric terminals at its sides, a shade holder including a casing for inclosing the said socket and its terminals separated therefrom by an annular space, and resilient means carried by the supporting part to engage the shade holder, there being recesses in the latter communicating with the interior of the said casing for receiving said means and for ventilating the said interior.

4. A fixture of the character described in-

cluding in its construction a supporting part, an electric lamp socket suspended beneath it having exposed electric terminals at its sides, a shade holder including a casing for inclosing the said socket and its terminals separated therefrom by an annular space, and resilient members carried by the supporting part to engage the shade holder, the walls of the holder having a series of depressions therein, the said walls being rounded into such depressions whereby the said resilient members when in engagement with the latter will be forced out in a rotating movement of the said holder.

5. The combination with a supporting part including an electric lamp socket and wire terminal securing-means lying outside said part, of a shade holder, a series of resilient portions carried by the supporting part to engage said shade holder, the latter including a series of depressions corresponding to and adapted for receiving the portions whereby to secure the supporting part and holder in connected relation, and an insulating sleeve within the shade holder inclosing the lamp socket and removable with said holder from around said socket to expose the same.

6. The combination with a supporting part having the form of a hood, an electric lamp socket suspended beneath the same and having wire terminal securing-means below and outside the supporting part, a shade holder inclosing the socket including a series of depressions terminating in ventilating openings, a series of resilient fingers carried by the supporting part to engage in the depressions, and an insulating sleeve within the holder inclosing the socket and its terminal means and having openings extending along it communicating with the depressions and their openings.

7. The combination with a supporting part, an electric lamp socket suspended beneath the same, a shade holder part, including a sleeve carried by and removable with the said shade-holder to inclose the socket, a series of openings in the shade holder and the insulating sleeve for ventilating purposes, and resilient means carried by the supporting part to engage the shade holder.

In testimony whereof we affix our signatures, in presence of two witnesses.

BERTRAM J. GRIGSBY.
OWEN E. GRIGSBY.

Witnesses:
ROSCOE HERGET,
L. M. THURLOW.