Sept. 3, 1929. E. C. WHITE 1,727,149

ELECTRIC LIGHTING FIXTURE

Filed Aug. 11, 1926

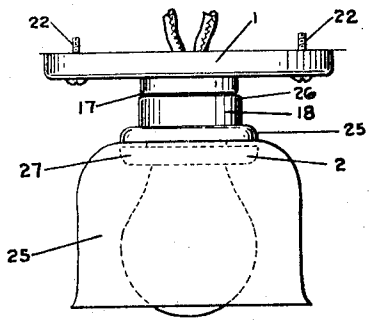


FIG 1

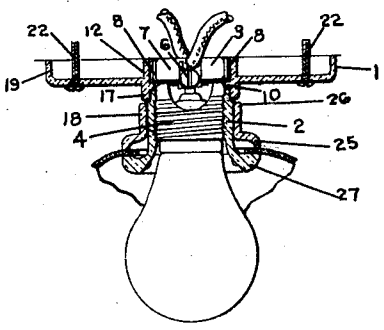


FIG. 2

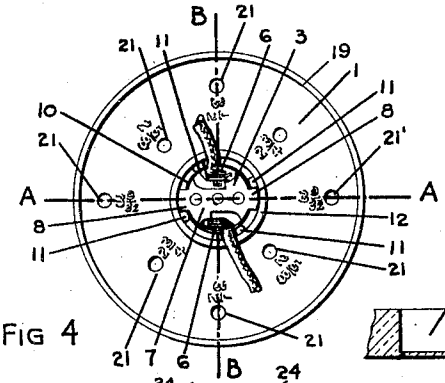


FIG 4

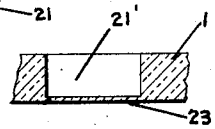


FIG 9

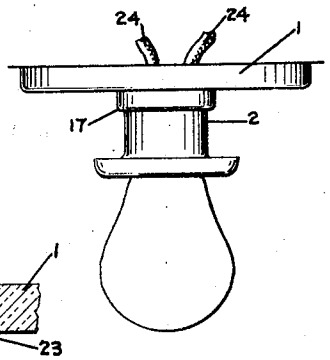


FIG 3

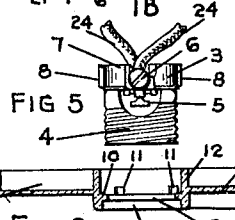


FIG 5

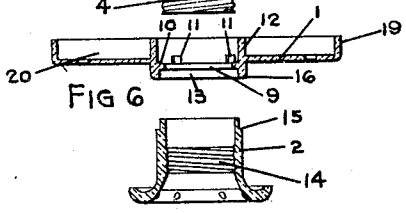


FIG 6

FIG 7

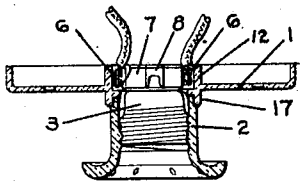


FIG 8

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Patented Sept. 3, 1929. 1,727,149

UNITED STATES PATENT OFFICE.

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ELECTRIC-LIGHTING FIXTURE.

Application filed August 11, 1926. Serial No. 128,537.

My invention relates to the construction of all types of electric lighting fixtures which include or support a lamp socket and which are adapted to be installed on electric outlets and other places where definite provisions for attachment have been made.

In my co-pending application Serial No. 25,987 filed April 27th, 1925, I describe a method of constructing lighting fixtures of insulating material and supporting same on an electric outlet by means of a plate. One of the objects of my present invention is to provide a more simplified construction, to meet a wider range of outlet box conditions and to eliminate the necessity for using a plate or bridge. Another object is to reduce the cost of producing the contemplated types of electric lighting fixtures by providing means integral with the body or wall-plate of the fixture for attachment to a variety of different outlet boxes and for concealing whatever portion of the said means is not utilized in any particular fixture. A further purpose is to utilize standard socket-interiors with a minimum number of additional parts to form a complete fixture of the nature described.

In my Letters Patent No. 1,622,934, dated March 29th, 1927, I describe shade-holding means somewhat similar to those disclosed herein but in my present invention these have been improved in an important manner to prevent the breakage of glass shades.

In the accompanying drawing Fig. 1 is the side view of an electric ceiling fixture which may also be attached to a wall or other surface, together with a lamp and shade and means to support the shade; Fig. 2 is the vertical cross section of the same fixture with the lamp and socket-interior shown in side elevation and a portion of the shade cut away; Fig. 3 is the side view of the same fixture as in Fig. 1 omitting the shade, part of the shade holder and the attaching screws; Fig. 4 is the top view of the fixture shown in Fig. 3; Fig. 5 is the side view of the socket-interior only with the leading-in wires attached thereto; Fig. 6 is the cross section of the fixture body or plate on the line A—A of Fig. 4; Fig. 7 is the cross section of the socket cover on the line A—A of Fig. 4; Fig. 8 is the cross section of the said plate and socket cover on the line B—B of Fig. 4, assembled together with the socket-interior shown in side elevation; Fig. 9 is an enlarged cross section of a portion of the said plate on the line A—A of Fig. 4.

In carrying out my invention according to the illustrated embodiment thereof I provide a body 1 and a socket cover 2 of moulded insulating material and a standard socket-interior 3 having a metallic screw-shell 4 a center contact 5 binding screws 6, 6 and a socket body 7 formed with oppositely disposed lugs 8, 8.

The fixture body 1 is provided with a circular opening 9 through which the socket-interior 4 may be inserted from above but small enough to prevent passage therethrough of the oppositely disposed lugs 8, an internal shoulder 10 to provide a bearing for the lugs 8, and lugs 11, 11 spaced to accommodate the lugs 8 and to limit the rotation of the socket-interior while the lugs 8 are bearing against the shoulder 10. The said fixture body is also provided with a circular wall 12 having an internal diameter sufficient to slip the outside of the lugs 8 and the heads of the binding screws 6 when conductors are attached to the terminals. The said wall 12 extends substantially to the top of the socket body and covers the binding screws so as to prevent accidental contact between the binding screws and lock-nuts or other loose parts of outlet boxes and to prevent the binding screws from falling out if they become loose while the fixture is assembled.

The bottom of the fixture body 1 is provided with a circular recess 13 a little larger in diameter than the center opening 9 and of sufficient diameter to receive the end of the socket cover 2. The said socket cover is provided with an internal thread 14 to screw onto the screw-shell 4 and a shoulder 15 adapted to bear against the end 16 of the fixture body so that when the socket-interior is placed in the fixture body and the socket cover is screwed onto the screw-shell of the socket-interior as illustrated in Fig. 8, the lugs 8 of the socket-interior will be drawn firmly against the shoulder 10 of the fixture body. The diameter of the end 16 of the fixture body is larger than the diameter of the adjacent portion of the socket cover 2 so that when the parts are assembled an external shoulder 17 is provided for the engagement of a shade ring 18 as illustrated in Fig. 2.

The fixture body 1 is provided with an upturned rim 19 to provide a bearing against the ceiling and a space 20 within the rim to

accommodate the projecting edges of outlet boxes. The upper surface of the fixture body between the wall 12 and the rim 19 is provided with a number of pairs of circular recesses 21, 21′ separated from the opposite surface of the body by a thin web 23. Each pair of these recesses are oppositely disposed about the center axis of the fixture body and spaced apart at a different distance from each other in order to provide a plurality of standard spacings for supporting screws to correspond with the spacings of the threaded lugs commonly provided on different outlet boxes. The actual spacing of each pair of recesses is indicated by figures moulded into the fixture body near each recess to indicate the center to center spacing between each recess and the opposite one. For example, Fig. 4 illustrates a fixture body having four pairs of recesses spaced, center to center of pairs, $3\frac{1}{2}''$, $2\frac{3}{4}''$, $3\frac{9}{32}''$ and $2\frac{5}{8}''$ respectively, these dimensions being well known standard spacings on outlet boxes in general use.

The fixture is preferably furnished with a pair of supporting screws 22, 22 and the recesses 21 are of a diameter greater than the body of these screws but smaller than the head thereof so that when a workman wishes to install the fixture on any given outlet box he merely selects the pair of recesses marked with the spacing of the threaded lugs on the said box and uses the attaching screws 22 to push out the thin web 23 of the pair of recesses to be used. He then inserts the screws 22 from the bottom of the fixture through the holes thus provided in order to fasten the fixture body to the outlet. The great importance of the figures indicating the spaces lies in the fact that if the webs 23 are pushed out of the wrong recesses the fixture is spoiled for use in the place for which it is intended. The spacings of the threaded lugs on different types of outlet boxes are well known to electrical workmen and are sufficiently well standardized so that the workman glancing at the box can tell from its general size and appearance which spacings to use. In many cases the boxes are so deep in the plaster that the lugs could not be measured accurately and the means I have provided for enabling the workman to quickly select the right pair of recesses to be used is therefore of great importance. The fact that these figures are moulded when the recesses are moulded prevents any possibility of error in manufacture and spoilage resulting therefrom.

The said recesses 21 may therefore be considered as knock-out recesses or push-out recesses. The method of forming each recess is the same as described in my co-pending application Serial No. 25,987 of April 27th, 1925.

The fixture body 1 is formed of moulded insulating material with the parts, openings and recesses 9, 10, 11, 12, 13 and 16 formed in the moulding thereof. The socket cover 2 is also of moulded insulating material with the thread 14 and the shoulder 15 formed in the moulding thereof.

The simplicity with which my lighting fixture may be installed on an electric outlet will be understood from the following description:

The parts 1, 2 and 3 are first disassembled by unscrewing the socket cover from the screw-shell and pushing the screw-shell out of the fixture body. The outlet wires 24, 24 are then attached to the binding screws 6. The socket-interior 3 is then replaced in the fixture body 1 and the socket cover 2 is screwed onto the screw-shell as far as it will go. The attaching screws 22 are then used to push out the proper pair of webs 23 in knockout recesses 21 to correspond with the spacing of the tapped holes in the outlet box. The fixture body is then attached to the outlet box by using the attaching screws in the position illustrated in Fig. 2. All of the unused pairs of knock-out recesses 21 remain invisible. The great economy of this construction is emphasized by the fact that a great variety of holes for attaching the fixture are thus rendered easily available without the necessity for providing additional parts to cover the members so supported in order to hide openings not used.

When it is desired to use a shade 25 the socket cover 2 is first slipped through a center opening in the shade from the inside and a ring 18, which is also preferably moulded of insulating material, is slipped over the outside of the socket cover. The socket cover 2 is then screwed onto the screw-shell as far as it will go.

The length of the shade ring 18 is so proportioned to the length of the socket cover 2 and the thickness of the shade that when the socket cover is screwed up as described the shade ring will fit loosely between the shoulder 17 and the top of the glass shade. The shade is therefore held in position between the flange 25 of the ring 18 and the flange 27 of the socket cover 2 but not tightly enough to cause breakage of a glass shade from expansion. Though loosely held, any noticeable disarrangement of the shade will be prevented by engagement of the end 26 of the ring 18 with the shoulder 17. One of the advantages of making the parts of moulded insulating material as described is that good commercial accuracy is obtainable in quantity production so that it is practical to furnish my fixture with the dimensions of the different parts so definitely related to the common thickness of glassware that all breakage due to over-tightening of shade holders is avoided.

The new methods of construction herein described are adaptable to many variations to meet different requirements and my inven-

tion therefore includes all devices in which the construction or assembly of parts includes what I claim as new, which is:

1. An electric lighting fixture comprising, a plate of moulded insulating material adapted to cover an outlet box, said plate having a peripheral flange to space the same from a wall in which an outlet box to be covered thereby is disposed, means for attaching the plate to an outlet box, selectively spaced knock-out portions integral with said plate which on selected removal provide openings for the passage of said attaching means through said plate, said plate having an integral tubular wall centrally intersecting the main body thereof so as to extend above and below the same, said tubular wall having an internal annular shoulder intermediate its ends, a lamp socket member having a screw-shell contact adapted to be inserted within the confines of the upper end of said tubular wall and stopped against the upper side of said shoulder with its screw shell contact extending downwardly beyond said shoulder and exteriorly of the lower end of said tubular wall, means to prevent rotation of said socket member relative to said tubular wall, and an internally threaded socket cover of moulded insulating material adapted to be screwed onto said screw-shell contact into stopped engagement with the under side of said shoulder to thereby interlock the plate and socket member in operative assembled relation.

2. An electric lighting fixture as characterized in claim 1, in which said socket cover is provided at its lower free end with an outwardly projecting annular flange upon which a shade may be supported in suspension therefrom, and an external sleeve loosely slidable on said socket cover above said flange and adapted to be immovably engaged between a shade and the lower margin of the tubular wall of said plate when said socket cover is in place to thereby retain said shade against displacement from operative assembled relation to the fixture.

Signed at New York, N. Y., on this 9th day of August, 1926.

ERNEST CANTELO WHITE.