Jan. 6, 1931. J. C. SMITH 1,787,496

PUSH-ON LIGHTING UNIT

Filed Aug. 25, 1928

Fig. 1.

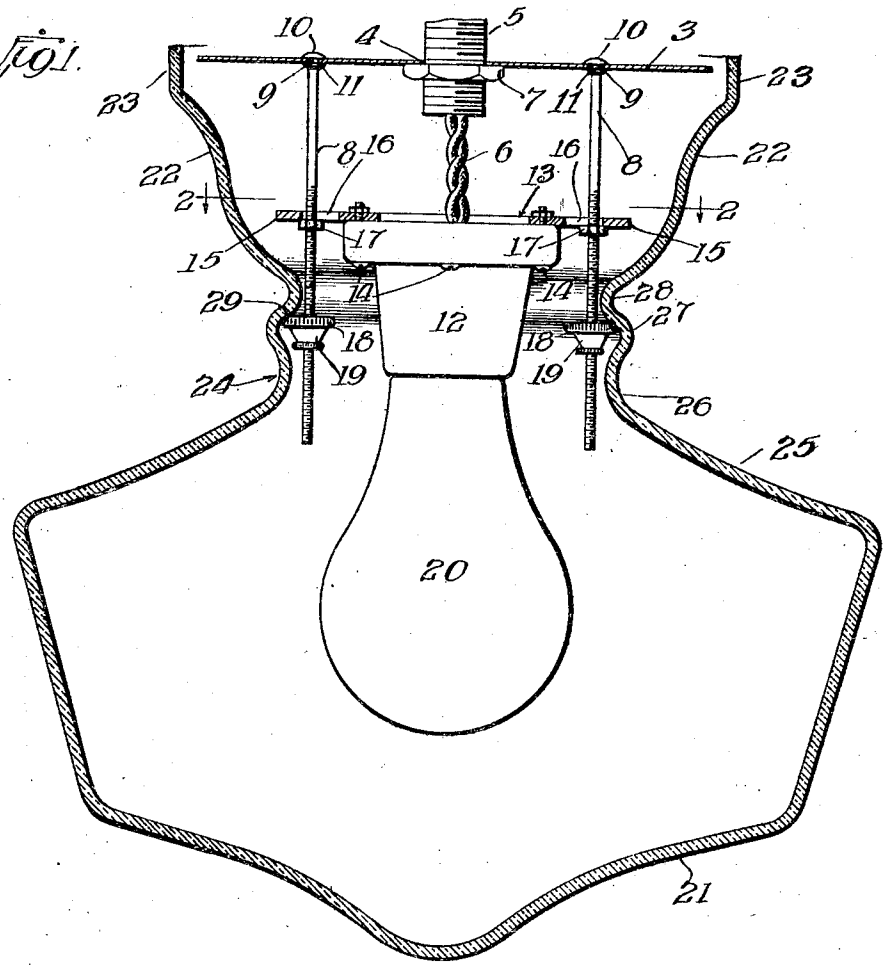
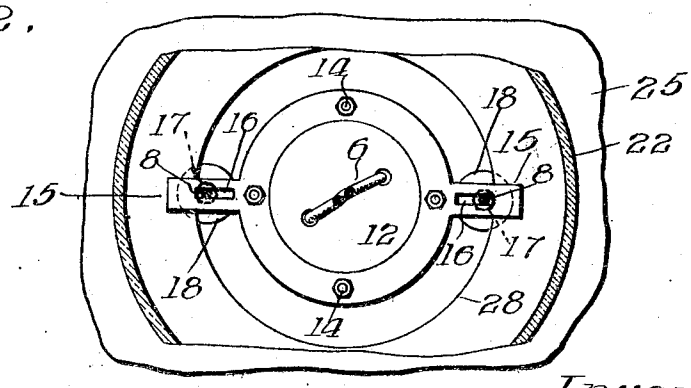


Fig. 2.



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PUSH-ON LIGHTING UNIT

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This invention relates to lighting fixtures which may be termed a "push-on" lighting unit and has reference more particularly to ceiling or porch lights.

The object of the invention is to provide a push-on lighting unit in which the globe is made with an integral collar portion of glass to displace the usual ceiling or porch ring and which is so formed integral as to provide an annular recess and an adjacent shoulder to receive attaching means which spring into the same for detachably retaining or supporting the globe in position over the light socket and electric bulb.

A further object of the invention is to provide novel adjustable means for supporting the socket and bulb from a ceiling or wall, said means also frictionally supporting the globe and permitting convenient application and removal thereof for cleaning or other purposes.

Another object is to provide supporting means for the socket and bulb and also the globe which may be suspended from the bottom plate of a ceiling or junction box or a special plate of springy or flexible material provided for this purpose in the wall or ceiling and carried by the conduit for the electric wires.

With the above and other objects in view, the invention consists in certain novel structures and arrangement of parts to be hereinafter more particularly specified and pointed out in the claims.

In the accompanying drawings:—

Fig. 1 is a sectional view of a lighting unit constructed in accordance with the invention, and

Fig. 2 is a sectional view taken on the section line 2—2 of Figure 1.

Referring to the drawings in detail, 3 designates a plate which is supported at the wall or ceiling and may be the bottom of a ceiling or junction box, in which case it is of relatively stiff metal. However, this plate may be of a springy or flexible material connected and supported independently of the ceiling box, as by means of an opening 4 formed therein centrally to engage the conduit 5 for the electric wire 6 and then supported by a nut 7 threaded on the pipe or conduit 5 against the plate 3.

A plurality of supporting rods 8, or a pair of screws, are engaged through openings 9 in the plate 3 with their heads 10 resting on the inner or top face of the plate and having shoulders or enlargements 11 thereon engaging the outer or bottom face of the plate so as to securely mount the rods or screws 8 in position. Of course, the enlargements 11 may be suitably formed on the rods as by pressing them from the material of the rod or otherwise fastening the same thereto. That is, they may be separate parts secured to the rods or threaded thereon, as will be obvious.

The rods 8 serve as supporting means for a light socket 12 of porcelain or other suitable material. For this purpose, there is provided a plate 13 shown in the form of a ring to which the upper flanged portion of the socket is detachably secured by bolts, screws, or the like, as indicated at 14, so that the socket is suspended therefrom. This plate has diametrically opposite extensions or reduced portions 15 provided with slots 16 adapted to receive the rods 8 to permit a plate or socket to be centralized. The plate is supported by nuts 17 threaded on the rods and on which the plates bear beneath the slots or openings in the plate. Obviously, the slots or openings 16 accommodate different spacing of the rods 8 and the nuts 17 serve to permit adjustment of the position of the socket vertically or horizontally along the rods.

Also, threaded on the rods 8 are collars 18 preferably knurled and formed of some relatively soft non-abrading material such as fiber, brass, aluminum, or the like. These may be simply slipped on to the rods or threadedly engaged therewith and are supported or backed up by lock nuts 19 which are threaded on the rods 8 and prevent the collars from shifting when once adjusted. The socket 12 takes an electric light bulb 20, and a glass globe 21 is adapted to enclose the bulb and other parts of the device. Instead of forming this globe with the usual neck portion to take in the ceiling or porch ring of the usual type as generally formed of metal, the globe has an integral collar or ring por-

tion 22 enlarged in a direction opposite to that of the globe and having a portion 23 which engages the wall or ceiling, thus completely enclosing the supporting elements of the globe, wiring, socket, and bulb. The reduced intermediate portion or neck of the globe, designated generally at 24, is formed at its juncture with the upwardly sloping top portion 25 of the globe with an annular inwardly convexed portion 26 which is of concavo-convex cross section. Adjacent to or above this, the neck portion is formed with an outward extension 27 also of concavo-convex cross section but is convexed outwardly on a reverse or ogee curve with respect to the portion 26. A still further reverse curve is formed providing an inwardly convex portion 28 between the part 27 and the ring 22 convexed inwardly to a greater degree than the portion 26. The portion 26 thus provides an internal annular portion rounded or convexed on its inner face in the direction of the axis of the bulb and globe. The portions 27 and 28 form an annular internal concavity and an annular internal shoulder by reason of the greater inward projection of the part 28, said shoulder being designated at 29 and facing inwardly and downwardly at the circumferential annular groove thus provided between the convolutions 26 and 28.

The purpose of this formation will be readily apparent in Figure 1 of the drawings, as it will be observed that when the globe is placed in position the portion 28 is snapped over the collars 18 so that the latter will engage the shoulder 29 and support the globe with its collar portion engaging the wall or ceiling and enclosing the interior parts heretofore referred to. However, the globe may be readily detached or removed by snapping the shoulder 29 and portion 28 over the collars 18. This may be readily done for cleaning the globe or for other purposes, such as obtaining access to the interior parts for repair, adjustment or replacement of the bulb. The application of the globe is accomplished by simply pushing the globe over the retaining or supporting means by which it is frictionally held. It may be pointed out that where the plate 3 is relatively stiff, the rods 8 are given a certain limited amount of freedom in swinging or made resilient or springy, but where the plate 3 is springy or of resilient material or allowed to flex by reason of its relative thinness, the rods 8 may be stiff or of a rigid character. Of course, the parts need not be made in the exact form shown, as the plate 13 may be of other shape and any desired number of rods 8 may be provided as shall be found expedient.

Attention is also invited to the fact that the device may be used for holding odd-shaped globes on side walls as well as on ceilings, it being understood that I do not desire to be restricted to the form of globe or fixture shown, nor the use thereof in connection with a ceiling light.

While I have shown and described my invention in a preferred form, I am aware that various changes and modifications may be made therein without departing from the principles of the invention, the scope of which may be determined by reference to the appended claims.

I claim as my invention:

1. A lighting fixture of the class described, comprising a globe having a reduced neck portion and an enlarged collar portion formed therewith, the neck portion having an internal groove forming a shoulder with a reduced convolution adjacent thereto toward the collar portion, the shoulder facing the globe proper, a supporting plate, rods carried by the plate and extending therefrom, said rods being resiliently separated, and adjustable members on the rods over which the shoulder is adapted to pass with the reduced convolution and said members engaging in the groove.

2. A lighting fixture of the class described, comprising a globe having a reduced neck portion and an enlarged collar portion formed therewith, the neck portion having an internal groove forming a shoulder with a reduced convolution adjacent thereto toward the collar portion, the shoulder facing the globe proper, a supporting plate, rods carried by the plate at one end of each and extending therefrom in substantially parallel relation, said rods being adapted to be sprung toward each other and to separate when released, non-abrading collars adjustably supported on the rods over which the reduced convolution is adapted to be frictionally engaged, whereby the globe will be supported by engagement of the collars in the groove by the shoulder, and a lamp socket supporting plate mounted between the rods.

3. A lighting fixture of the class described, comprising a globe having a reduced neck portion and an enlarged collar portion formed therewith, the neck portion having an internal groove forming a shoulder with a reduced convolution adjacent thereto toward the collar portion, the shoulder facing the globe proper, a supporting plate, rods carried by the plate at one end of each and extending therefrom in substantially parallel relation, said rods being adapted to be sprung toward each other and to separate when released, non-abrading collars adjustably supported on the rods over which the reduced convolution is adapted to be frictionally engaged, whereby the globe will be supported by engagement of the collars in the groove by the shoulder, a plate mounted on the rods so as to permit movement of the latter in applying and removing the globe, and a lamp socket carried by the plate.

4. A lighting fixture of the class described,

comprising a globe having a reduced neck portion and an enlarged collar portion formed therewith, the neck portion having an internal groove forming a shoulder with a reduced convolution adjacent thereto toward the collar portion, the shoulder facing the globe proper, a supporting plate, rods carried by the plate at one end of each and extending therefrom in substantially parallel relation, said rods being adapted to be sprung toward each other and to separate when released, non-abrading collars adjustably supported on the rods over which the reduced convolution is adapted to be frictionally engaged, whereby the globe will be supported by engagement of the collars in the groove by the shoulder, a plate having slots receiving the rods therethrough for relative movements, means adjustably supporting the plate on the rods in the collar portion of the globe, and a lamp socket carried by the plate.

5. In a lighting fixture of the class described and in combination, a globe having an annular internal shoulder and an annular internal groove adjacent said shoulder, a plurality of rods mounted for resilient relative movement transversely of their axes, and adjustable means on said rods engageable in said groove for supporting said globe.

6. In a lighting fixture of the class described and in combination, a globe having an annular internal shoulder and an annular internal groove adjacent said shoulder, a plurality of rods mounted for resilient relative movement transversely of their axes, and adjustable means on said rods symmetrical with respect to the axes thereof and engageable in said groove for supporting said globe.

7. In a lighting fixture of the class described and in combination, a globe having an annular internal shoulder and an annular internal groove adjacent said shoulder, a plurality of rods mounted for resilient relative movement transversely of their axes, and a member threaded on each of said rods and engageable in said groove for retaining said globe.

8. In a lighting fixture of the class described and in combination, a globe having an internal annular shoulder and an annular groove adjacent thereto, a flexible plate, a plurality of rods secured to said plate and movable relative to each other by means of the flexing of said plate, means on said rod and symmetrical with respect to the axes thereof for engaging said groove and supporting said globe, and a second plate for supporting a lamp socket, said second plate having a plurality of slots through which extend said rods for supporting said second plate.

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