June 10, 1941. L. L. STEWART 2,244,736

LIGHT FIXTURE

Filed Nov. 27, 1937 2 Sheets-Sheet 1

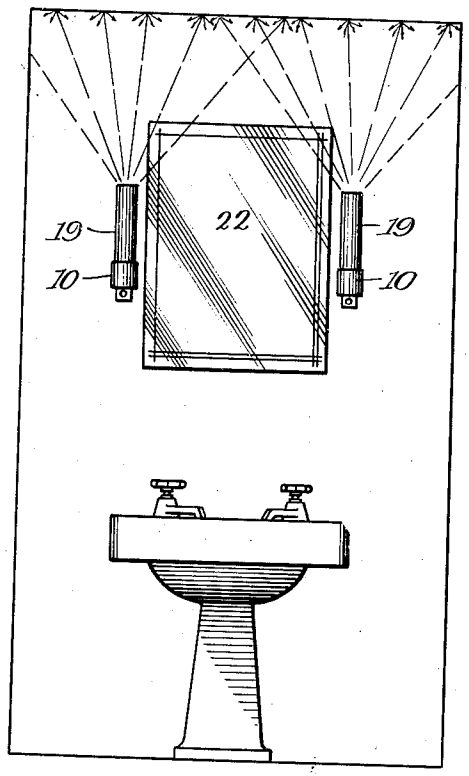


Fig. 1

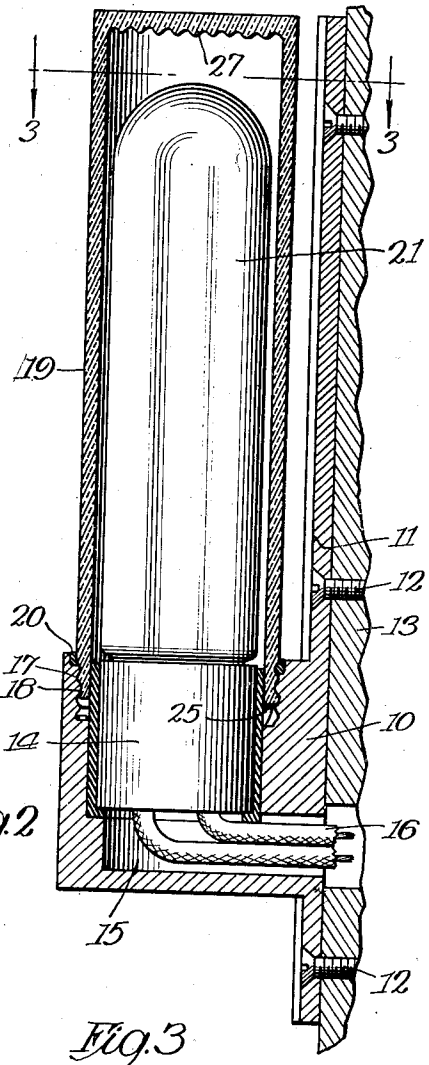


Fig. 2

Fig. 4

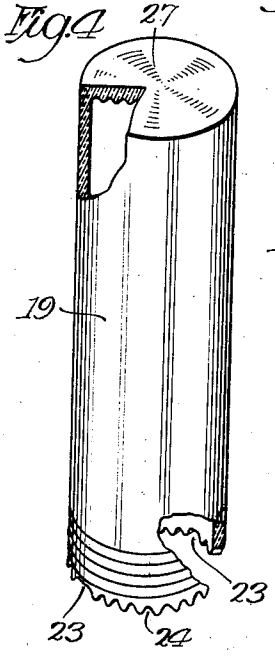


Fig. 5

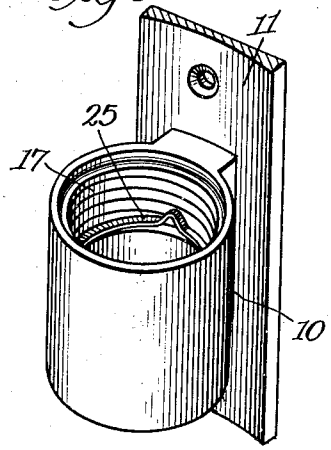
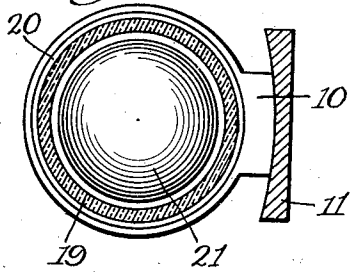


Fig. 3



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LIGHT FIXTURE

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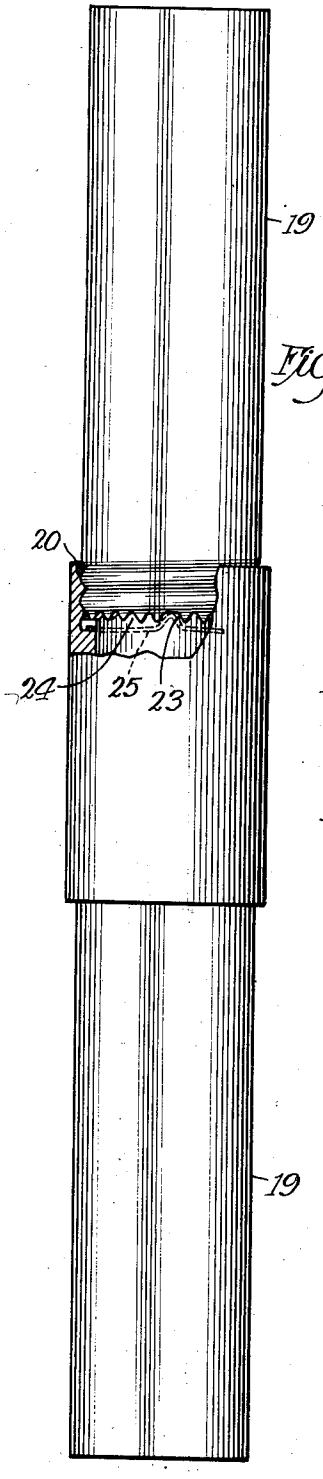


Fig.6

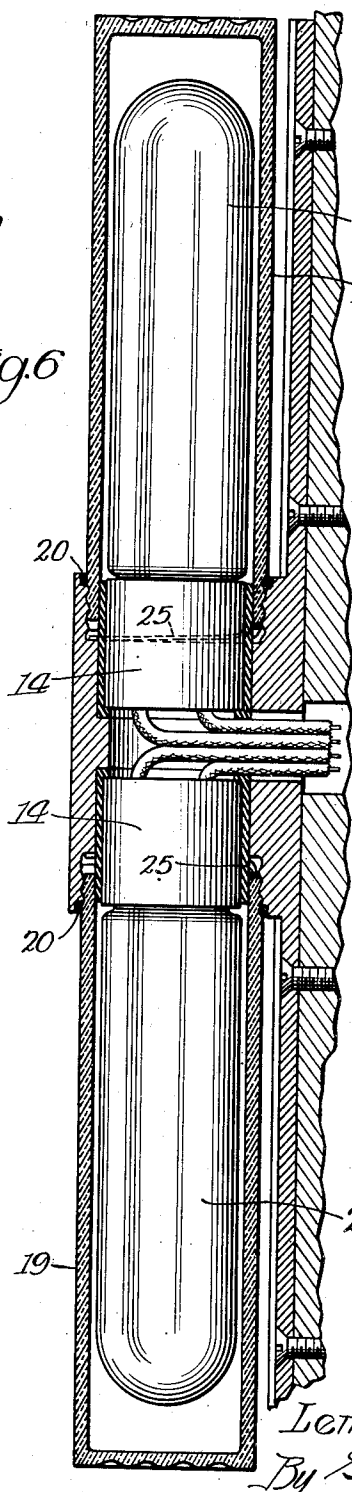


Fig.7

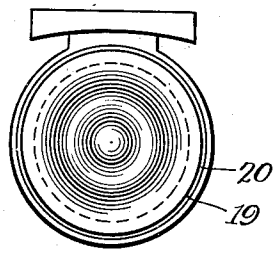


Fig.8

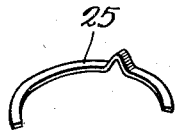


Fig.9

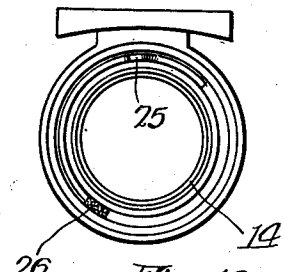


Fig.10

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UNITED STATES PATENT OFFICE

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LIGHT FIXTURE

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Application November 27, 1937, Serial No. 176,869

3 Claims. (Cl. 240—73)

The principal object of this invention is to provide a lighting fixture for tubular bulb electric lamps that will prevent glare and permit maximum illumination. Generally speaking, this is accomplished by enclosing a tubular bulb lamp of clear glass within a closely surrounding closed cover having frosted or enameled portions or both frosted and enameled portions to control the transmitted light rays to suit the condition under which the fixture is to be used.

Thus, in a bracket or wall fixture at each side of a mirror, for example, each cover may have that portion of its side next to the user heavily frosted to prevent glare and the remainder clear, or lightly frosted (according to the distance from the wall and the character of the wall or associated wall plate) to give maximum indirect lighting without glare from the wall; or each cover may have a portion of its wall next to the user enameled (with silica spray) and the remainder frosted or clear to suit the conditions for indirect lighting. The head of the cover opposite to the end of the lamp may be plain and clear or it may be provided with optical forms to concentrate or disperse the light above or below, as may be desired.

The inside wall of the cover, rather than the outside wall, should have any frosting used, for a smooth outside wall sheds dust better than a frosted one and is easier to clean. The joint between the cover and the base should be sealed as by means of a gasket to keep out dust. This is especially true when the cover is pendant.

Fig. 1 is a front elevation of a mirror over a basin and provided with side or wall bracket fixtures embodying the invention;

Fig. 2 is a vertical section through one of the fixtures;

Fig. 3 is a horizontal cross section taken on the plane indicated by the line 3—3 of Fig. 2;

Fig. 4 is a perspective view of one form of closed glass lamp cover;

Fig. 5 is a perspective view of the wall bracket;

Figs. 6 and 7 are front elevation and vertical section through a similar fixture having a lamp above and below the bracket and a variation in the form of cover for each lamp;

Fig. 8 is a plan view of Figs. 6 and 7;

Fig. 9 is a perspective view of a spring pawl or lock for securing the cover in a selected position;

Fig. 10 is a plan view of a wall bracket showing the location of the spring pawl within the cover socket.

These illustrative embodiments are selected from the great variety of which the invention is susceptible and they should not be taken to indicate the scope of the claims.

Referring now to Sheet 1, the fixture includes a brass wall bracket 10, having flange extensions 11 provided with openings for screws 12 to secure the bracket to a wall 13. The extensions are preferably slightly concave so that they will serve as reflectors, and their front surfaces are suitably finished to give the desired diffusion or other light distributing characteristics.

The bracket is equipped with a brass shell lamp socket 14 communicating at the bottom with a conduit or duct 15 for lead-in wires 16.

Surrounding the lamp socket is a cover socket 17, threaded to receive and cooperate with a molded thread 18 on the end of a closed lamp cover 19. When properly screwed down the joint is sealed by a rubber gasket 20 in a suitable depression at the upper end of the socket. Pressed glass covers may be readily made to accurate dimensions.

The tubular bulb lamp 21 is preferably made of clear glass for maximum economy and efficiency. In order to prevent glare that portion of each cover 19 adjacent to the face of the user of the mirror 22 (Fig. 1) will be treated in some manner suited to the purpose. In some instances that will be served by merely frosting the glass by acid etching, sand blast, or otherwise. In many instances, the remainder of the cover may be left plain to permit a maximum transmission of light to produce indirect lighting by reflection from the wall and the reflectors constituting a part of the bracket. In other instances it will be expedient to enamel (as by the well known silica spray process) those portions of the covers 19 lying between the filaments and the wall and the remainder, or a portion of the remainder of the cover will be frosted.

Some designers will treat the side of the cover next to the wall when the distance from the wall, or its character, will result in glare, and under other circumstances they will omit the treatment on that side to increase the indirect lighting by reflection from the wall. Some designers will prefer to enamel the side next to the user's eye. Of course it will sometimes be expedient in the frosting operation to treat the entire inside wall of the cover.

The lower end of each cover is provided with a notch, or notches 23, in addition to serrations 24, adapted to cooperate with the spring pawl 25

soldered at 26 to the bracket in the bottom of the cover socket.

The position of the pawl is, of course, chosen to suit the conditions, for its position will determine the position of the frosted or enameled portion of the side wall of the cover when the pawl engages one or the other of the notches 23.

The features so far described may be used with the free end of the cover open, but not to such good advantage as when it is closed to prevent the entrance of dust and sometimes also to provide optical forms for concentrating or dispersing the light to meet the particular conditions.

As shown in Fig. 4, the head 27 of the cover is provided with prism lenses suited to some conditions. In Figs. 2 and 7, the same cover is provided with lens forms of different characteristics. In some instances, a plain head will be satisfactory. The choice will depend somewhat upon the direct or indirect lighting sought from the shaft of rays through the head of the cover. As shown in Fig. 1, it is preferable to have a diverging shaft of light directed toward the ceiling for overhead indirect lighting, and one means for accomplishing this result is by prisms 27.

When the fixture is used on opposite sides of a mirror in a room having a relatively low ceiling, it is desirable to throw considerable light upwardly to be reflected from the ceiling down upon the head of a person standing before the mirror. The clear or prism top of the cover accomplishes this objective with admirable results. At the same time, front glare is avoided by using heavy frosting or enameling at the front of the fixture to drive the light to the wall when it is effectively diffused by the wall surface and the reflectors 11.

So far the cover has beeen decribed as it is contemplated when made of glass and that term is used in the common sense, which is very inclusive. I realize, however, that covers can be advantageously made of a variety of molded plastics, such as

Phenol-formaldehyde compounds,
Urea-formaldehyde compound,
Methyl-methacrylate resin,
Cellulose acetate.

Plastic covers may be ground with pumice and water or may be etched with acid.

In many instances it will be of advantage to use a plurality of tubular bulb lamps, and Figs. 6 and 7 illustrate one form in which that is done, one of the lamps being pointed directly upward and the other directly downward. That, of course, can be varied to suit the particular conditions.

Tubular bulb electric lamps are well known and generally have a cylindrical form of greater or less length. For convenience in identification, however, reference is made to the General Electric Catalog of Standard Large Mazda Lamps and Type D Lamps, April 1, 1935. The shape of the tubular bulb lamp makes a generally cylindrical form of cover satisfactory, but showing that form is not intended as a limitation.

Designers will readily make use of reed-ribbed cylinders, and otherwise depart from a true cylindrical form in order to get decorative effects, or particular light distribution. They will use forms polygonal in cross section and pyramidal but, obviously, all those things will embody the spirit of this invention and for that reason are intended to be included in the claims.

I claim as my invention:

1. A light fixture for use alongside a wall mirror in a room having a ceiling and wall of good light reflecting properties, said fixture comprising a lamp socket, an elongated lamp supported in the socket, a correspondingly elongated tubular cover having side and top walls fitted over the lamp, all the forward portion of the side wall which is normally visible to a user of the mirror being treated to give it light diffusing properties, the rear of the side wall which is obscured by the forward portion from the view of the user being formed to pass light of relatively great density toward the room wall adjacent to the mirror for reflection outwardly, and the top wall of the cover being substantially flat and provided with prismatic means for directing a diverging beam of light upwardly onto the ceiling for reflection downwardly.

2. A light fixture for use alongside a mirror in a room having a ceiling of good light reflecting properties, said fixture comprising a lamp socket, an elongated lamp in the socket, a correspondingly elongated tubular cover having side and top walls fitted over the lamp, a light reflecting member behind the cover adjacent to the mirror having a radius of curvature about a vertical axis greater than the curvature of the cover, all the forward portion of the side wall which is normally visible to a user of the mirror being treated to give it light diffusing properties, the rear portion of the side wall which is obscured by said forward portion from the view of the user being formed to pass light of relatively great density toward the reflecting member for reflection outwardly, and the top wall of the cover being substantially flat and provided with prismatic means for directing a diverging beam of light upwardly onto the ceiling for reflection downwardly.

3. A light fixture for use alongside a wall mirror in a room having a ceiling and wall of good light reflecting properties, said fixture comprising a lamp socket, an elongated lamp supported in the socket, a correspondingly elongated tubular cover having side and top walls fitted over the lamp all the forward portion of the side wall which is normally visible to a user of the mirror being treated to give it light diffusing properties, the rear of the side wall which is obscured by the forward portion from the view of the user being formed to pass light of relatively great density toward the room wall adjacent to the mirror for reflection outwardly, and the top wall of the cover being provided with means for directing a diverging beam of light upwardly onto the ceiling for reflection downwardly.

LEMUEL L. STEWART.