June 3, 1941. P. C. DITTMAN ET AL 2,244,101

DECORATIVE LIGHT

Filed Jan. 27, 1939

Fig. 1.

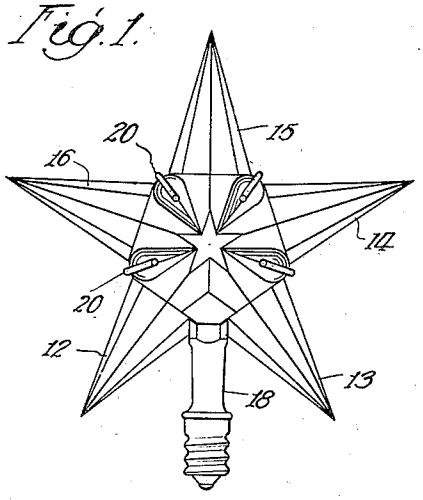


Fig. 2.

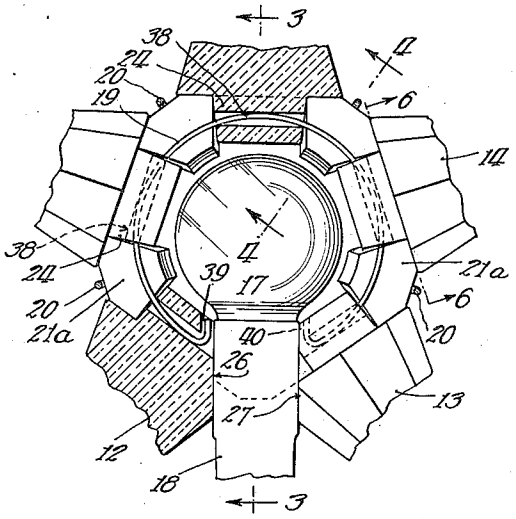


Fig. 3.

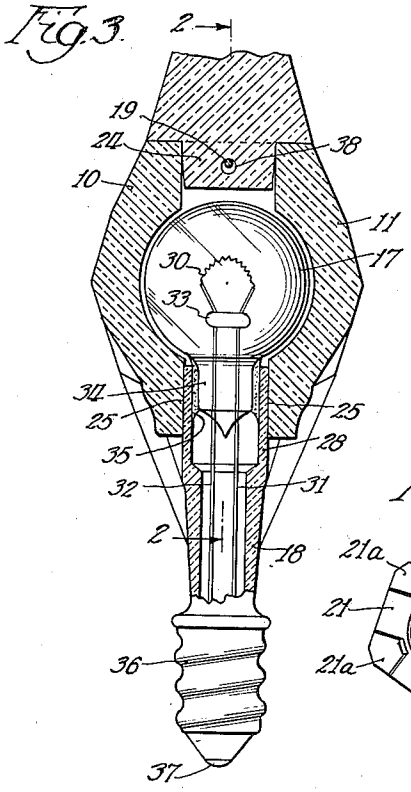


Fig. 4.

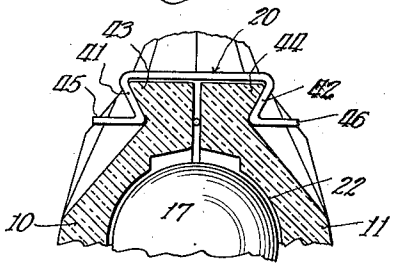


Fig. 5

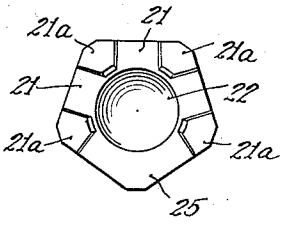
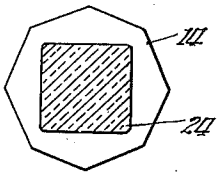


Fig. 6.



Inventors:
Paul C. Dittman
Arthur Stechbart
By: Galvert, Carlson, Britzbaugh & Wills,
Attys

Patented June 3, 1941 2,244,101

UNITED STATES PATENT OFFICE

2,244,101

DECORATIVE LIGHT

Paul C. Dittman and Arthur Stechbart, Chicago, Ill., assignors to Matchless Electric Company, Chicago, Ill., a corporation of Illinois

Application January 27, 1939, Serial No. 253,033

7 Claims. (Cl. 240—10)

The present invention relates to ornamental lighting devices, such as Christmas tree lights, and has for its principal object the provision of a novel enclosure construction for a lamp bulb by which an illuminated star-shaped ornament may be produced that will be illuminated throughout substantially the entire surface thereof.

The present invention contemplates the provision of a lamp bulb and enclosure structure wherein the entire enclosure may be constructed of light transmitting material such as glass or the synthetic resin compounds which have a certain degree of transparency.

One form of the invention is embodied in a construction wherein a lamp bulb is housed between two side plates, which in turn support a plurality of pyramidal elements which form the points of a star. The construction is such that the pyramidal elements are secured to the side plates which are clamped together to produce an enclosure for the lamp bulb.

The features and advantages of our invention will appear more fully as the description proceeds, reference being had to the accompanying drawing wherein a preferred form of the invention is shown. It is to be understood, however, that the drawing and description are illustrative only and are not to be taken as limiting the invention, except insofar as it is limited by the claims.

In the drawing,

Fig. 1 is a view in side elevation of a star-shaped ornament embodying our invention;

Fig. 2 is a sectional view taken substantially on the line 2—2 of Fig. 3;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is a fragmentary sectional view taken on the line 4—4 of Fig. 2;

Fig. 5 is a detail view of one of the side plates showing the inner surface thereof, and

Fig. 6 is a sectional view taken on the line 6—6 of Fig. 2.

Referring now to the drawing, the present device embodies an enclosure made up of two side plates 10 and 11, five pyramidal elements, 12, 13, 14, 15 and 16, a lamp bulb 17, a stem 18, and suitable securing members 19 and 20.

The side plates 10 and 11 and the pyramidal elements 12, 13, 14, 15 and 16 are made of a suitable light transmitting material such as glass or one of the more or less transparent forms of synthetic resins. The material may be frosted or colored, or coated with coloring material or fluorescent material to produce any desired shades. Alternatively, the coloring may be applied to the lamp bulb 17, if desired.

Each side plate has a plurality of recesses 21. The posts 21*a* between recesses are tapered to provide sufficient draft for removing the plates from the molds. In addition, the inner faces of the side plates are hollowed out, as indicated at 22, to provide a hollow space to receive the lamp bulb 17.

The pyramidal elements have reduced polygonal inner end portions 24 (see Fig. 6) which are adapted to be received in the complementary recesses 21 on the two side plates 10 and 11. Where the stem 18 of the lamp bulb passes between the side plates 10 and 11, the walls of the side plates are cut away, as shown at 25 in Figs. 3 and 5, to provide space for the stem 18. In addition, it is necessary to cut off the adjacent pyramidal elements 12 and 13, as indicated at 26 and 27, to provide clearance for the stem 18. The stem 18 preferably has a rectangular upper portion 28 so that the surfaces at 25, 26 and 27 may be made flat. When secured together, the elements 12 and 13 and the side plates 10 and 11 serve to hold the stem 18 firmly in place and prevent its rotation with respect to the enclosure. The enclosure may be held in the hand to screw the lamp stem into a socket. The stem is so positioned that light from the center of the enclosure formed by the transparent plates and pyramidal elements is not cut off from the elements 12 and 13.

The construction of the lamp bulb and stem is shown most completely in Fig. 3. The lamp bulb 17 has a filament 30 therein. This filament is mounted upon two lead-in wires 31 and 32 which are spaced by a bead 33. The bulb 17 is provided with a reduced tip 34 that extends down into the hollow interior 35 of the stem 18. The tip 34 is cemented in place in the rectangular end portion 28 of the stem 18 by suitable cement indicated at 35. The bulb is set up high on the end of the stem as shown so the stem will not obstruct passage of light to the inner ends of elements 12 and 13. The lead-in wires 31 and 32 extend through the stem and are connected to a screw shell 36 and a metal tip 37 of the usual construction.

As shown, the depressions 22 in the side walls 10 and 11 are sufficiently large to provide an air space around the bulb 17. Also, the reduced inner end portions 24 of the pyramidal elements terminate at a distance from the lamp bulb so as to provide space for air circulation around the

bulb. There is sufficient clearance between the side walls and around the end portions 24 to admit air enough to maintain the enclosure at a relatively cool temperature with respect to the lamp.

The securing member 19 is in the form of a length of hard spring wire which is threaded through openings 38 provided in the portions 24. The ends of the member 19 are turned inward in grooves 39 and 40 which intersect the openings 38 of the elements 12 and 13. The wire 19, as shown, merely lies between the adjacent surfaces of the side plates 10 and 11 and need not be otherwise secured. Stiff spring material is preferable, since it will yield to permit a limited freedom of movement of the pyramidal elements and pull them back into proper position.

The members 20 comprise spring clamps which are substantially U-shaped and which have inturned prongs 41 and 42 (see Fig. 4). The inturned prongs 41 and 42 hook over shoulders 43 and 44 provided upon the side plates 10 and 11. The members 20 may be removed by forcing the out-turned ends 45 and 46 thereof outwardly until the prongs 41 and 42 clear the shoulders 43 and 44. The members 20 are located between the several pyramidal elements except at the point where the stem 18 projects from the enclosure.

The assembly of the device is quite simple. The several pyramidal elements are threaded together upon the wire member 19 and are then placed upon a plate 10 or 11 with their inner portions 24 in the corresponding recess 21 of this plate. A lamp bulb is then laid in place with the stem between the elements 12 and 13, and the other side plate is pressed down over the lamp bulb to complete the enclosure. The clamp members 20 are then forced over the side edges of the side plates 10 and 11 to hold the parts assembled.

The pyramidal elements have a multiplicity of triangular faces and for the purpose of ornamentation the side plates may be formed to provide similar surfaces extending inwardly from the junction with the pyramidal elements. The surface configuration of the side plates and the pyramidal elements may be varied, however, to produce different effects within the scope of the present invention. It will be noted that the several translucent elements join each other without the interposition of opaque frames or plates. This gives a maximum freedom from shadows and dark lines.

From the above description, it is believed that the construction and advantages of this device will be readily apparent to those skilled in this art.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. An ornamental display device comprising in combination a plurality of light transmitting elements shaped to simulate the points of a star, said elements being arranged radially about a common center with their inner ends spaced apart to receive a lamp bulb therebetween, said elements having reduced mounting portions at their inner ends, and a pair of opposed light transmitting side plate elements each having a plurality of recesses in its inner face to receive the reduced portions of said first named elements, and to receive the stem of a lamp bulb, said side plate elements having depressions in their inner faces to receive the lamp bulb, and removable clamps holding said side plate elements together.

2. A light transmitting ornamental enclosure for a lamp bulb comprising two opposed light transmitting side plates, means securing said plates together, and a plurality of elongated tapering light transmitting elements projecting radially from the peripheral edges of said side plates, said elements having means at their inner ends secured between said plates, said plates being recessed on their inner faces to receive a light bulb, said first named means comprising spring clips, located between adjacent tapering elements and extending over the edges of the side plates.

3. An ornamental light transmitting and diffusing enclosure for a lamp bulb comprising in combination two opposed light transmitting side plates secured together and hollowed out on their inner faces to receive a lamp bulb, and having aligned recesses in their inner faces for receiving a lamp bulb stem, pyramidal light transmitting elements projecting radially from the peripheral edges of said side plates and secured to the side plates.

4. An ornamental light transmitting and diffusing enclosure for a lamp bulb comprising in combination two opposed light transmitting side plates secured together and hollowed out on their inner faces to receive a lamp bulb, and having aligned recesses in their inner faces for receiving a lamp bulb stem, pyramidal light transmitting elements projecting radially from the peripheral edges of said side plates and secured to the side plates, said elements having reduced polygonal inner end portions and said side plates having opposed recesses in their inner faces to receive said portions.

5. An ornamental light transmitting and diffusing enclosure for a lamp bulb comprising in combination two opposed light transmitting side plates secured together and hollowed out on their inner faces to receive a lamp bulb, and having aligned recesses in their inner faces for receiving a lamp bulb stem, pyramidal light transmitting elements projecting radially from the peripheral edges of said side plates and secured to the side plates, said elements having reduced polygonal inner end portions and said side plates having opposed recesses in their inner faces to receive said portions, and said inner end portions having a wire threaded through them.

6. An ornamental light transmitting and diffusing enclosure for a lamp bulb comprising in combination two opposed light transmitting side plates secured together and having aligned recesses in their inner faces for receiving a lamp bulb stem, pyramidal light transmitting elements projecting radially from the peripheral edges of said side plates and secured to the side plates.

7. A light transmitting ornamental enclosure for a lamp bulb comprising an annular series of radially extending light transmitting elements, a stiff resilient retaining wire connecting the inner ends of said elements and a hollow light transmitting body having an annular series of holes in which the inner ends of said elements are mounted and one of said holes providing an entry for a lamp stem.

PAUL C. DITTMAN.
ARTHUR STECHBART.