March 26, 1935. G. F. PRIDEAUX 1,995,863

ELECTRIC LAMP

Filed July 29, 1932

Fig 3

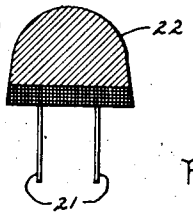



Fig 1

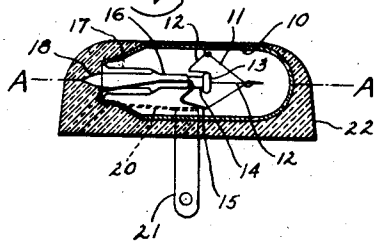



Fig 2

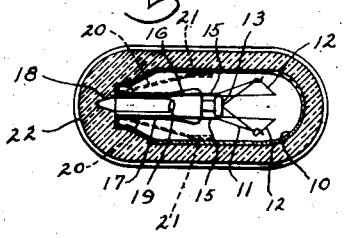



Fig 7

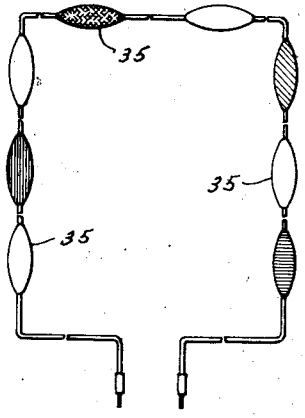



Fig 6

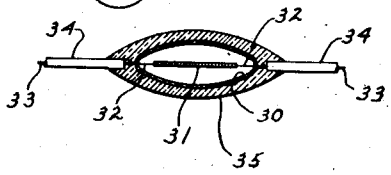



Fig 4

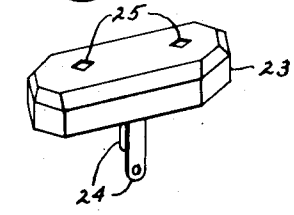
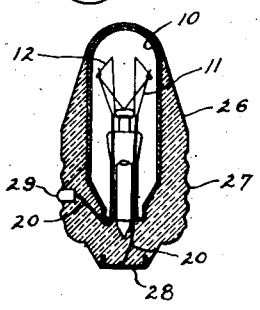



Fig 5




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# UNITED STATES PATENT OFFICE

1,995,863

## ELECTRIC LAMP

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Application July 29, 1932, Serial No. 625,987

6 Claims. (Cl. 176—16)

My invention relates to illuminating and illuminated devices, particularly to electric lamps which comprise a light source and an enclosing bulb of glass or other vitreous material, and still more particularly to electric incandescent lamps in which the light source is a filament. According to my invention the bulb of the electric lamp is at least partially enclosed in a molded plastic casing. This may be suitably diffusing or colored or both and may have a desired configuration for decorative or useful purposes. The casing serves to support terminal devices and the usual lamp base may be dispensed with thus reducing the cost of manufacture. The invention lends itself to the production of decorative and useful effects inasmuch as any desired configuration and coloring of the casing may be used and the thickness of the coating may be varied.

In its preferred form, the casing for the lamp consists of a plastic material or compound through which the light from the lamp will penetrate, and by varying the thickness of the coating and the color of the material or compound, various ornamental lighted appearances such as colored or mottled effects may be produced. One or more windows or apertures may be provided in the enclosing compound to provide ornamental streaks of light or to emit more light in a given direction. An opaque material may be used provided with such apertures or windows. The material used for the casing is preferably of substantially less fragility than glass so that it is less liable to crack or break than the uncovered glass bulb.

Other features and advantages of my invention will appear from the following description of species thereof.

In the drawing, Fig. 1 is a partly sectioned side view of a lamp comprising my invention; Fig. 2 is a top view of said lamp, the casing thereof being sectioned through the line A—A of Fig. 1; Fig. 3 is an end view of the lamp; Fig. 4 is a perspective view of a modification; Fig. 5 is a partly sectioned elevation of still another modification; Fig. 6 is a partly sectioned side view of a lamp adapted for use where a number of lamps, such as Christmas tree lamps, are connected in series; and Fig. 7 shows a string of such lamps.

Referring to Figs. 1 and 2, the lamp comprises a bulb 10 having a filament 11 therein mounted on support wires 12 which are carried by a button 13 on the end of a support rod 14. The filament 11 is connected to inner lead-in wires 15 which are sealed in the stem press 16 of a stem tube 17 sealed to the neck of bulb 10. The bulb is exhausted through a tube 18 communicating with the inside of said bulb through an aperture 19 in the stem press 16. Outer lead wires 20 connected to the inner lead-in wires 15 are bent back against the bulb 10 and are connected to terminals 21 which may comprise prongs adapted to be plugged directly into standard slotted receptacles. A casing 22, consisting of a plastic material is molded around the bulb 10, and encloses the lead wires 20 and the upper portions of the prongs 21, thus forming a complete lamp ready for insertion in a socket.

Various plastic compounds may be used for the casing among which are synthetic resins such as the urea compounds and thiourea compounds which may be produced by reacting on urea or thio-urea with formaldehyde to form a resin. Examples of such resins are those commercially known as Elaskon and Beetle. The thio-urea resins are preferable for use as a casing although other resins which can be used are the phenol formaldehyde compounds commercially known as Bakelite and Durite. Cellulose compounds can also be used, such as the acetate, nitrate or benzoate, and it is also possible to use shellac or varnish with a filler, hard rubber, celluloid or casein products. When the lamp is plugged in a receptacle it gives off a soft light through the upper part where the covering is preferably made comparatively thin. The casing material or compound may itself be colored or various designs may be painted or otherwise applied to its surface.

The lamp shown in Fig. 4 illustrates a variation in the design and comprises an ornamental molded enclosing casing 23 having terminals 24 projecting therethrough. Windows 25 may be provided in the molded covering for ornamental effect.

The modification shown in Fig. 5 comprises an enclosing molded casing 26 having a conventional screw threaded base portion 27. One of the lead wires 20 is connected to a center contact 28 and the other lead wire 20 is connected to a side terminal 29 which may be a pin embedded in the casing in line with one of the threads and projecting slightly beyond the outer surface of said thread to insure contact with the shell of the socket into which the lamp is screwed.

The lamp shown in Fig. 6 is particularly adapted for use in a string where the individual lamps are in series. In Fig. 7 is illustrated such a string suitable for Christmas tree decoration. The lamp comprises a bulb 30 preferably elongated, having a filament 31 therein and leading-in wires 32

sealed in each end thereof. The leading-in wires 32 are connected to current conducting wires 33 having insulating coverings 34. The bulb 30 is enclosed in a translucent compound 35 which is also molded about the outer portions of the lead wires 32 and the adjacent portions of conductors 33 and insulation 34. The compound 35 may be colored, thus dispensing with a separate coloring operation.

While I have described what I at present consider the preferred embodiment of my invention, it will be obvious to those skilled in the art that various changes and modifications may be made without departing from my invention, and I, therefore, aim in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. In a device of the character described, the combination of a glass bulb, an electric light source within said bulb, leading-in conductors sealed in said bulb and extending exteriorly thereof, and a casing consisting of a substance of substantially less fragility than glass molded onto and surrounding substantially the entire surface of said bulb.

2. In a device of the character described, the combination of a glass bulb, an electric light source within said bulb, leading-in conductors sealed in said bulb and extending exteriorly thereof, a casing consisting of a substance of substantially less fragility than glass molded onto and surrounding substantially the entire surface of said bulb, and terminal members supported by said casing and electrically connected to said leading-in conductors.

3. In a device of the character described, the combination of a glass bulb, an electric light source within said bulb, leading-in conductors sealed in said bulb and extending exteriorly thereof, a casing consisting of a substance of substantially less fragility than glass molded onto and surrounding substantially the entire surface of said bulb, and terminal prongs supported by said casing and electrically connected to said leading-in conductors.

4. In a device of the class described, the combination of an electric light source, a glass bulb surrounding said source, leading-in conductors sealed in said bulb and electrically connected to said source and a casing consisting of plastic material of substantially less fragility than glass molded about and surrounding substantially the entire surface of said bulb, a portion of said casing being shaped to engage and to be held in a socket and carrying terminal contact members.

5. In a device of the class described, the combination of an electric light source, a glass bulb surrounding said source, leading-in conductors sealed in said bulb and electrically connected to said source and a casing consisting of plastic material of substantially less fragility than glass molded about and surrounding substantially the entire surface of said bulb, a portion of said casing being screw threaded and carrying terminal contact members.

6. In a device of the class described, the combination of an electric light source, a glass bulb surrounding said source, leading-in conductors sealed in said bulb and electrically connected to said source and a casing consisting of plastic material of substantially less fragility than glass molded about and surrounding substantially the entire surface of said bulb, a portion of said casing being screw threaded and carrying a side terminal contact member and an end terminal contact member.

GWILYM F. PRIDEAUX.