

GLOWLAMP

Filed June 7, 1932

Fig. 1.

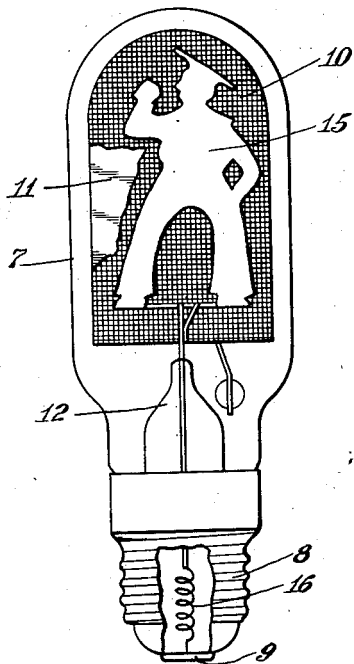


Fig. 2.

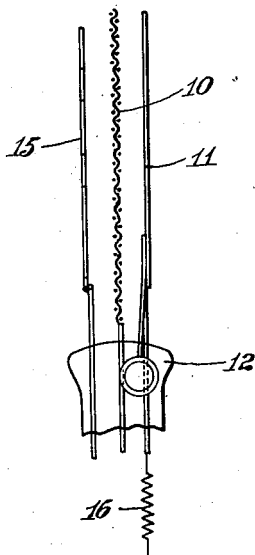


Fig. 3.

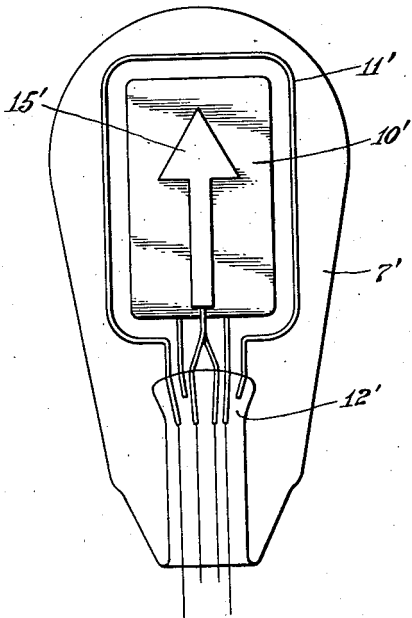
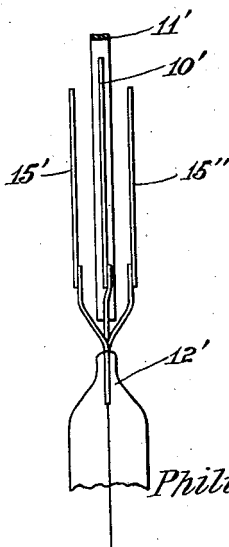


Fig. 4.



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1,989,041

GLOWLAMP

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Application June 7, 1932, Serial No. 615,810

4 Claims. (Cl. 176—14)

My invention relates principally to lamps for display, ornamentation and advertising purposes.

One object is to provide a simple, inexpensive form of lamp for displaying a silhouette of any suitable form.

Another object is to provide a lamp of this character which can be used either on direct current or alternating current.

Another object is to provide a lamp of this character which can be applied to direct current sockets regardless of the polarity.

In carrying out the invention, I provide a tube or envelop of the usual character preferably with terminals adapted to the usual Edison or threaded socket type. The electrodes may be of any suitable character, preferably two plates arranged close together but sufficiently spaced apart to permit of a uniform and prolonged discharge so as to maintain long life. These two electrodes are both supported by the usual internal press and in front of one of the electrodes is arranged a silhouette of suitable design supported by the same press. In some cases a silhouette may be mounted on each side. The silhouette in no case is required to be in the electric circuit.

Fig. 1 is a front view of one form of tube embodying my invention.

Fig. 2 is an edge view showing the press, supporting electrodes and the silhouette.

Fig. 3 is a front view showing another modification of the invention.

Fig. 4 is an edge view and partial section showing the mounting of the electrodes and two silhouettes of the form shown in Fig. 3.

The tube 7 may be of any suitable material such as the ordinary glass bulb, and provided with terminals 8 and 9.

The electrodes 10 and 11 may be made of any suitable material such as nickel and in the form of plates of suitable size supported in the manner in which electrodes are usually supported in vacuum tubes. The tube is intended to contain any of the usual luminescent gases and at a pressure such as is commonly employed in luminescent gas tubes. The composition of the gas may be varied to produce such colors as may be desired.

It should also be understood that the electrodes may be coated or partly coated with compositions such as are commonly employed to facilitate a glow discharge at low voltages and of a suitable character to ensure long life.

The silhouette 15 may be of any suitable material either partly or wholly opaque, such as

sheet metal cut or formed to any desired design. This silhouette is supported in any suitable manner in the press 12 and may if desired be connected as a part of an electric circuit for the purpose of cleaning up the tube in the process of manufacture but it is not desired that the silhouette shall be a part of the circuit of the lamp during its normal operation.

It should be understood that materials commonly used for cleaning up vacuum tubes may be employed in the manufacture of these tubes. A resistance 16 for the purpose of limiting the current to a safe value may be mounted in the base of the tube.

Where the tube is employed in an alternating current circuit obviously it is immaterial on which side of the electrodes the silhouette is mounted for the glow discharge will appear on both sides of both electrodes and consequently produce the desired luminescent background.

When the tube is employed in a direct current circuit it is preferred that the electrode 10 be connected as the cathode for the luminosity at its surface is materially greater than the luminosity at the surface of the anode.

I may, however, form the electrode 10 of a perforated plate or woven wire mesh work so that light can shine through it in which event the electrode 11 might constitute the cathode and the light from it would still shine through the foraminous electrode 10 and provide the necessary luminescent background for the silhouette.

In the form shown in Fig. 3 it is intended that the plate 10' shall constitute the cathode which is surrounded by a loop-like anode frame 11'. In this case both sides of the cathode will be luminescent when in operation and a silhouette such as 15' or 15'' may be mounted on each side of the cathode thus making the tube reversible. Both electrodes and both silhouettes are mounted in the same press 12' of the tube 7'.

I claim:

1. A glow lamp comprising a transparent gas filled envelop containing a plate electrode, a frame electrode substantially completely surrounding the plate electrode so as to give a substantially uniform discharge path to said plate electrode and an opaque silhouette at each side of the plate electrode, said silhouette being mechanically discrete from said plate electrode and electrically inactive.

2. An electrical gas lamp characterized by a plurality of electrodes at least one of which is of a plate-like form and has a substantially uniform glow over its entire surface when electrically ex-

cited and a substantially opaque silhouette figure electrically inactive but adjacent to said electrode and with a space between said plate-like electrode and said figure affording a substantially
5 uniform cathode glow upon said plate-like electrode and functioning optically therewith, said electrode and said silhouette figure being enclosed within a common transparent envelop.

10 3. A gas glow lamp comprising a tube containing a plate-like electrode having a glowing surface when in operation, an electrode surrounding the plate-like electrode and in the same plane therewith and an electrically inert silhouette in the tube spaced apart from the plate-

like electrode sufficiently to avoid interference with the luminous discharge from the plate-like electrode.

4. In a gas filled lamp of the cathode glow type, two active electrodes at least one of which
5 is formed as a plate and an opaque silhouette arranged close to and substantially parallel to the surface of one electrode and at a distance therefrom so that it lies without the region of cathode glow of this last mentioned electrode,
10 said plate electrode affording a substantially uniform glowing background for said silhouette.

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