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P. SCHWARZE

2,393,711

PHOTOFLASH LAMP

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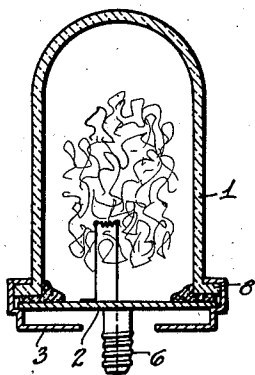


Fig. 3.

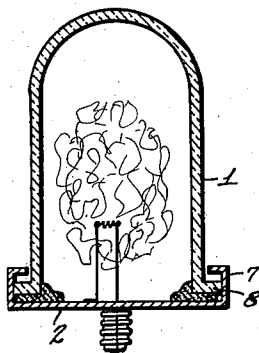


Fig. 4.

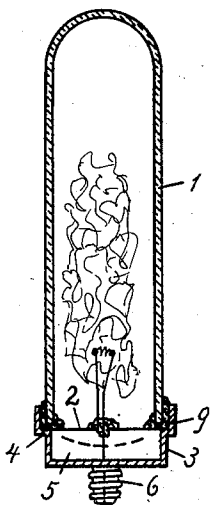


Fig. 1.

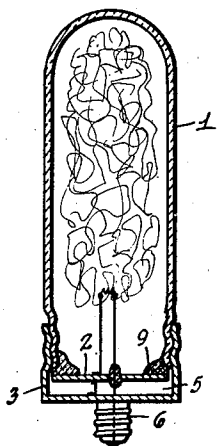


Fig. 5.

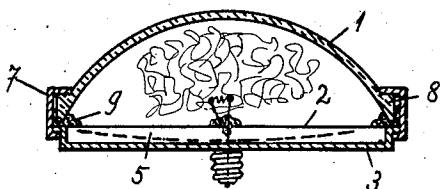


Fig. 2.

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PHOTOFLASH LAMP

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8 Claims. (Cl. 67—31)

The invention relates to photoflash lamps of the type in which the illuminating effect is produced by the reaction of substances inside enclosed containers. The object of the invention is to provide a photoflash lamp of high illuminating power and relatively small size which is so constructed as to eliminate all danger of explosions.

I attain this object by sealing the vessel containing the flashlight substances by a lid with the aid of a sealing compound in such a way that it can be separated from the container by the pressure of reaction and by providing another closure member which can hold the lid when the latter is detached from the vessel by the reaction pressure.

Some embodiments of the invention are illustrated, by way of example, in the drawing. Figs. 1 to 5 are longitudinal sections of various modifications of the photoflash lamp according to the invention. In Fig. 1, 1 is a glass tube which contains the reacting substances, e. g. magnesium wire and oxygen gas, the latter preferably at atmospheric or higher pressure. The tube is sealed below by the flexible lid 2, e. g. of thin sheet metal, with the aid of the gas-tight and preferably soft sealing compound 9. Before the tube is sealed, the lid 2 lies loose upon the shoulder 4 of the closure member 3. Between the latter and the lid 2 there is a space 5 which may communicate with the outer air or be filled with gas. A screw base 6 is fitted on the under side of the closure member 3. An electrode is fixed to the lid 2, while another is led through an aperture provided in the lid. Fixed between the electrodes, in the customary way, there is an ignition wire which may be coated with an ignition pill. In the course of assembly, after the electrodes have been fastened and the lid 2 has been inserted into the closure member 3, the soft sealing compound is applied to the rim of the lid 2 and the glass tube 1 is pressed in. In order to obtain a more durable mounting of the closure member 3 to the tube 1, the lower part of the latter and the upper part of the closure member 3 may be threaded, as shown in Fig. 5, so that they can be screwed together. Or these two parts may be permanently connected by using a hard cement. Upon assembly, the lid 2 lies firmly in position, but when the reaction pressure arises it may be pressed downwardly in the manner indicated by the dotted line, in which process it is able to detach itself by sagging from the bearing surface 4, after overcoming the resistance provided by the sealing compound. The glass tube may be filled with oxygen through an aperture which after filling has to be sealed in a

gas-tight manner, or the filling may be effected by an injection before the parts 1 and 3 are put together. The closure member 3 may be constructed as or supplied with a standard electric lamp base.

In Fig. 2 the vessel consists of the bell-shaped glass body 1 which is sealed by the lid 2. The former has on its rim a laterally extending nose 8 which is engaged by the ring 7. The upper rim of the latter may, after the glass body has been pressed into the sealing compound, be turned over the nose 8. The lower portion of the electrode leading through the lid 2 may consist of fuse wire, for use of the photoflash lamp on power current.

In Fig. 3 the glass bulb has a flange 8 at the lower end and is joined to the closure member 3 by turning the upper rim of the latter over the flange. In this embodiment the socket 6 is fixed to the lid 2 instead of to the closure member 3, and the latter is therefore provided with a central aperture through which the socket extends. Fig. 4 shows a further embodiment in which the lid and the closure member are united in one piece by providing the lid 2 with lateral extensions 7 which are turned over the flange 8 of the glass bulb in such a way that a small space is left above the flange, between it and the turned over extensions, thereby allowing the united sealing part to become separated from the glass bulb to a small extent.

What I claim is:

1. A photoflash lamp comprising a container; substances in the container which produce light by reaction; means inside the container for igniting said substances; a lid sealed to an opening of said container with the aid of a sealing compound, said lid being mounted in such a way that it can be separated from said container by the pressure of reaction, whereby the resistance offered by said sealing compound is overcome, and a closure member fixed to said container and adapted to hold said lid when the latter is separated from the container.

2. A photoflash lamp comprising a container; substances in the container which produce light by reaction; means inside the container for igniting said substances; a lid sealed to an opening of said container with the aid of a sealing compound, said lid being mounted in such a way that it can be separated from said container in consequence of the reaction pressure by overcoming the resistance offered by said sealing compound; a closure member fixed to said container and adapted to hold said lid when it becomes detached from the

container; and a gas in the space formed by the lid and the closure member.

3. A photoflash lamp comprising a container; substances in the container which produce light by reaction; means inside the container for igniting said substances; a flexible metallic lid sealed to an opening of said container with the aid of a sealing compound, said lid being capable of being detached from said container by the pressure of reaction; and a closure member fixed to said container and adapted to hold said lid when it becomes detached from the container.

4. A photoflash lamp comprising a container; substances within the container which produce light by reaction; means inside the container for igniting said substances; a lid sealed to an opening of said container with the aid of a sealing compound, said lid being mounted in such a way that it can be separated from the container by the reaction pressure, whereby the resistance offered by said sealing compound is overcome; and a closure member fixed to said container and adapted to hold said lid when it becomes detached from the container, said closure member being constructed as a lamp base for insertion into electric holders.

5. A photoflash lamp comprising a glass bulb; substances within said bulb which produce light by reaction; a lid sealed to an opening of said bulb and having a lamp base for insertion into electric holders, said lid being mounted in such a way that it can be separated from said container by the reaction pressure; and a closure member

fixed to said bulb and adapted to hold said lid when it is separated from the bulb, said closure member having an aperture for said lamp base.

6. A photoflash lamp comprising a glass tube provided at its open end with a screw thread; substances in said tube which produce light by reaction; a lid sealed detachably to the open end of said tube; and a closure member having a thread corresponding to that of said tube and being screwed upon it, said closure member being adapted to hold said lid when it is detached from said container by the pressure of reaction.

7. A photoflash lamp comprising a container fitted with a lateral flange at its opening; substances in said container which produce light by reaction; a lid sealed detachably to the opening of said container; and a closure member fixed to said container by turning its rim over said flange, said closure member being adapted to hold said lid when the latter is separated from said container by the pressure of reaction.

8. A photoflash lamp comprising a bulb transparent to light rays; a lateral flange at the opening of said bulb; substances in said bulb which produce light by reaction; means for igniting said substances; a closure member sealed detachably to the opening of said bulb; lateral extensions to said closure member which are turned over said flange in such a way that a space is left between the latter and the turned over extensions; and a lamp base at said closure member for insertion into electric holders.

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