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M. J. NEUMANN DE MARGITTA

2,273,435

FLASH LAMP

Filed Oct. 30, 1939

Fig. 1.

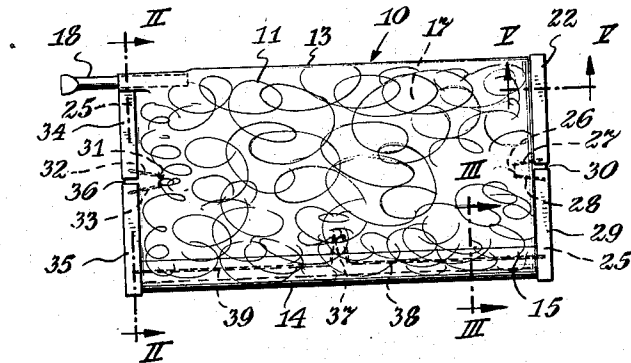


Fig. 2.

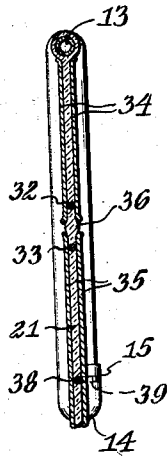


Fig. 3.

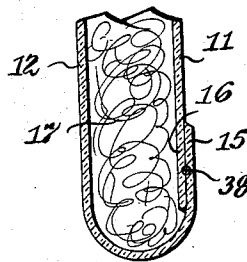


Fig. 5.

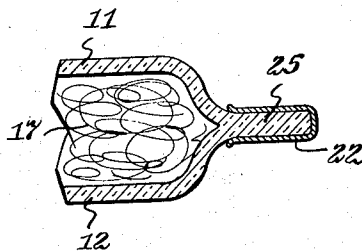
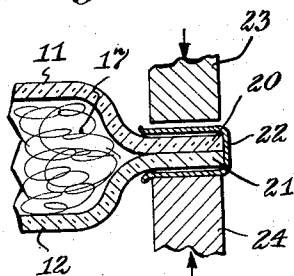


Fig. 4.



INVENTOR  
M. J. NEUMAN DE MARGITTA.  
BY *J. W. Neumann*  
ATTORNEY

## UNITED STATES PATENT OFFICE

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## FLASH LAMP

Michael J. Neumann de Margitta, New York,  
N. Y., assignor to Westinghouse Electric &  
Manufacturing Company, a corporation of  
Pennsylvania

Application October 30, 1939, Serial No. 302,023  
In Hungary August 19, 1939

3 Claims. (Cl. 67—31)

The invention relates to lamps and especially flashlamps used in photography.

An object of the invention is to provide a flashlamp that can be conveniently carried in numbers.

Another object of the invention is to provide a flashlamp that can be produced much cheaper and simpler than the glass flashlamp now being utilized.

Another object of the invention is to provide an extremely simplified electrical connection to the interior of a photoflash lamp.

Other objects and advantages of the invention will be apparent from the following description and drawing in which:

Figure 1 is a view in front elevation of a preferred embodiment of my invention.

Figure 2 is an enlarged cross sectional view on the lines II—II of Figure 1.

Figure 3 is an enlarged cross sectional view on the line III—III of Figure 1.

Figure 4 is a cross sectional view which illustrates a step in the formation of a portion of the photoflash lamp.

Figure 5 is an enlarged cross sectional view on the lines V—V of Figure 1, and the portion illustrated therein results from the step illustrated in Figure 4.

My invention described herein is a modification of the photoflash lamp of plastic material originally described in my application Serial No. 298,276, filed October 6, 1939. Various other modifications as well as various steps in the process of making my plastic photoflash lamps have been divided out from this application and my original application, and filed as continuations and continuations-in-part in applications with Serial Nos. 315,738, 315,739, 315,740, 315,741, 315,742, 315,743 and 315,744, filed January 26, 1940.

In Figure 1 is disclosed an envelope 10 of organic material of suitable light translucency or transparency, with adequate elastic and plastic properties. This material comprises one or more of the materials designated as plastic materials. These plastics preferably have a softening point somewhere between 150° and 300° F., and also a heat capacity, heat transfer and heat conductivity and dissipation so that there will be no explosion of the material.

The preferred plastic is that of cellulose acetate, although various transparent or translucent plastics of various resins might be used. However, cellulose acetate is especially adapted for photoflash lamp work.

The envelope 10 may be formed in various ways, but the very simple construction illustrated comprises a molded sheet of cellulose acetate having a front side 11 and a rear side 12, with top and bottom curved ends 13 and 14. This sheet of cellulose acetate is preferably folded over on itself with short overlapping ends 15 and 16 illustrated in Figure 3, which may be welded or cemented together. Inside of the envelope is the well-known combustible metal 17, whose ignition provides the intense flash for photographic work. The interior is also filled with an active gas such as oxygen, and an exhaust tube 18 may be utilized, if desired.

In order to close the edges of the envelope, I preferably utilize the step illustrated in Figure 4. The two adjacent edges 20 and 21 of the front and rear sides of the envelope are inserted into or clamped by a U-shaped metal member 22. This U-shaped member 22 is further compressed by two jaws 23 and 24 that may have heat applied thereto, such as the heat produced by current through welding electrodes. In fact the process is similar to spot or resistance welding, especially if the metal 22 is of high resistance. The heat flowing in the assembly illustrated in Figure 4, molds the two edges together into the unified edge 25 clamped by the U-shaped member 22, illustrated in Figure 5.

The U-shaped member 22 provides an additional method of making contact to the igniting means 26 in the interior of the casing. Two connections 27 and 28 extend from this igniting means to a position between two edges of the cellulose acetate. The upper portion of the two edges of the cellulose acetate is clamped between the metal member 22 and the lower portion between a similar metal member 29. The two metal members are spaced apart by a small space 30. The pressure applied is such that contact is made with the connection 27 and the U-shaped member 22, and also between the connection 28 and the U-shaped member 29.

If desired, a second igniting device 31 may be located on the opposite portion of the envelope, and have two connections 32 and 33, extending between two spaced metal clamping and contact members 34 and 35.

Figure 2 illustrates the cross sectional view through this construction illustrating the contact of the connection 32 to the electrical contact and binding member 34, and the connection of 33 to the contact and binding member 35. In between the two spaced metal members 34 and

35 is a portion 36 of cellulose acetate insulating the two contact members from each other.

If desired a third igniting means 37 may be located on the bottom portion of the envelope and have a connection 38 running between the overlapping edges 15 and 16 to one of the U-shaped binding contact members 29 and have another connection 39 running through the overlapping edges to the U-shaped contact and binding member 35.

Utilizing of three igniting devices at once by applying a contact 22 and 34, will produce a very intense and short flash. Combinations of two of the igniting means disclosed may also be utilized if desired.

It is apparent that I have disclosed a form of photoflash lamp that can be very easily carried in quantity and readily disposed of after use. It is also apparent I have provided an extremely simplified method of simultaneously sealing the envelope and making electrical contact to the igniting means in the interior of the flashlamp.

I claim:

1. A flashlamp comprising a sealed envelope of self-supporting cellulose acetate, an active gas and combustible metal and igniting means there-

in, electrical connections for said igniting means, one of said connections extending through a portion of said cellulose acetate envelope and a metal member closing the said portion and making electrical contact with the connection.

2. A flashlamp comprising a sealed envelope of self-supporting cellulose acetate, an active gas, combustible metal and igniting means therein, said envelope having the edge of one side adjacent the edge of another side of the envelope, connections from said igniting means extending to said edges and metal means closing said edges and making electrical contact to said connections.

3. A flashlamp comprising a sealed envelope of self-supporting cellulose acetate, an active gas, combustible metal and igniting means therein, said envelope having the edge of one side adjacent the edge of another side of the envelope, two connections from said igniting means extending between the edges and a spaced metal member binding the edges and making electrical contact to one of the connections, and a second metal member spaced from the first member and also binding the edges and making electrical contact with the other connection.

MICHAEL J. NEUMANN DE MARGITTA.