No. 676,979. Patented June 25, 1901.

A. E. COLGATE.

FLASH LIGHT CARTRIDGE.

(Application filed Dec. 18, 1900.)

(No Model.)

Fig. 1

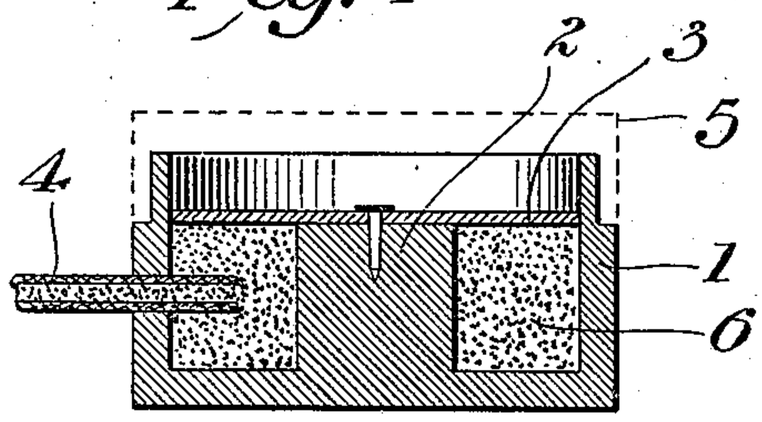
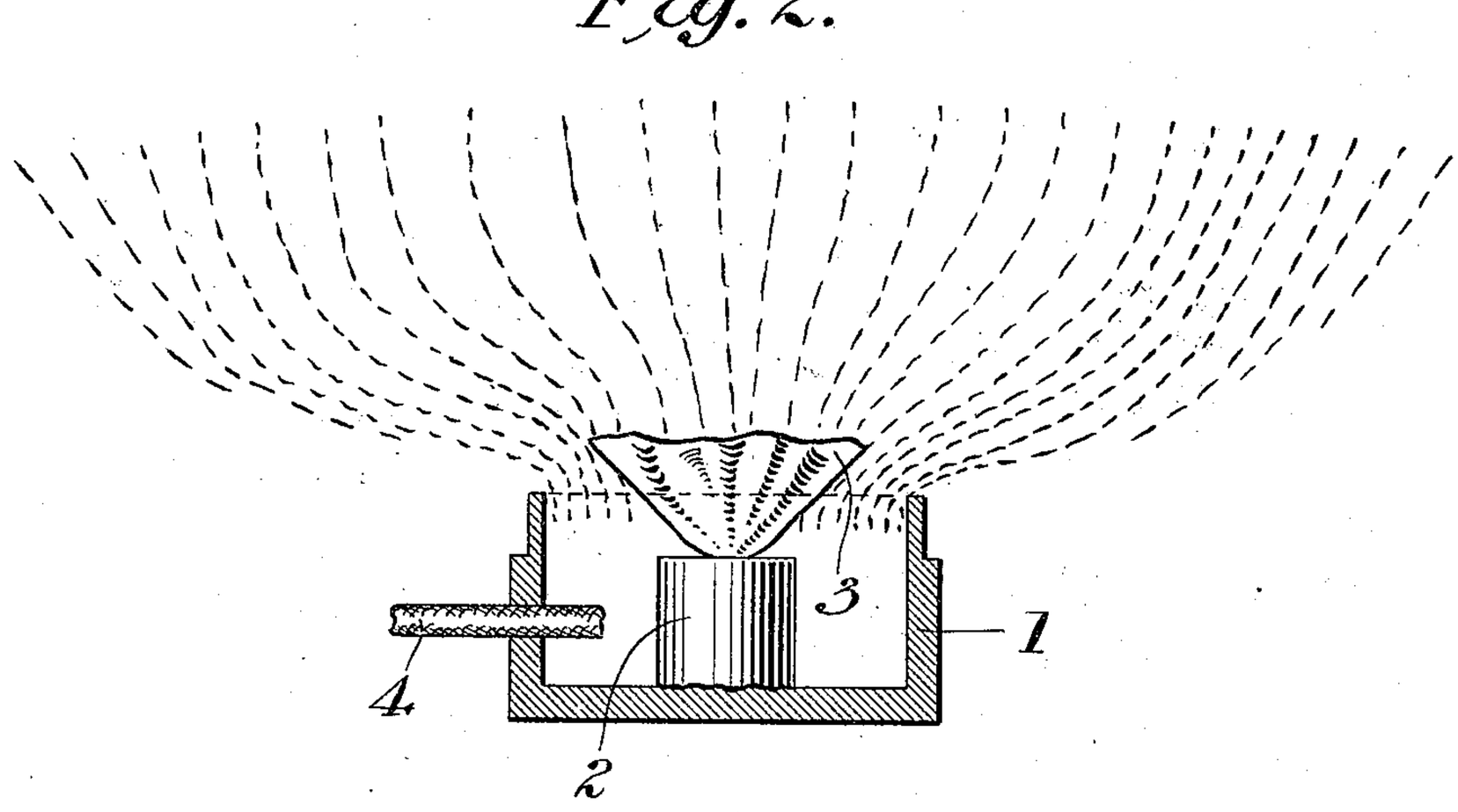


Fig. 2.



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FLASH-LIGHT CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 676,979, dated June 25, 1901.

Application filed December 18, 1900. Serial No. 40,302. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR EASTMAN COLGATE, a citizen of the United States, residing at New York city, New York, have invented certain new and useful Improvements in Flash-Light Cartridges, of which the following is a full, clear, and exact description.

My invention relates to artificial illuminating devices, and particularly to flash-light devices or cartridges designed for the use of photographers, amateur and professional.

The object of my invention is to provide a safe and effective package or cartridge containing a flash-light powder, which when used will generate with a minimum amount of powder a flame of very large proportions, whereby the harsh shadows will be broken up and a soft daylight effect produced. This I accomplish by the use of the device illustrated in the accompanying drawings, in which—

Figure 1 is a vertical sectional view of the package or cartridge, the cover being shown in dotted outline. Fig. 2 is a view of a somewhat graphic nature to illustrate the explosion of the cartridge and the effect produced upon the illuminating-flame.

1 is a box, preferably cylindrical in form.

2 is a supporting-post located substantially in the center of said box.

3 is a disk or wad of suitable yielding material secured to the supporting-post 2.

4 is a fuse projecting into the box and extending outside sufficiently far to permit the same to be readily ignited.

5 is a suitable cover, which may be provided, if desired.

6 is a suitable flash-light powder located within the box 1 and underneath the disk 3. In the claims the disk 3 will be referred to as the "spreader," since in operation its function is to deflect the flame, so that it will be spread out in the form of an inverted umbrella, thus breaking up all the harsh shadows and giving a soft daylight effect to the picture. Obviously the supporting means for the spreader may be varied as desired without departing from the spirit and scope of my invention, the main purpose of the spreader being, as above indicated, to flare out and spread the flame. Another purpose of the spreader is to make a more or less confined space for the flash-light powder, so that before the explosion and flash occur the entire or substantially the entire mass of powder may be ignited. I have found that by this improvement a comparatively slow burning powder may be employed and yet a quick and soft illuminating-flash produced. This may be due to the fact that the ignition of the powder takes place in a more or less confined space, the wall of which is not ruptured until the entire powder mass is on fire, at which moment the spreader is deflected and the flame projected outwardly and upwardly. In operation it is simply necessary to remove the cover and light the fuse.

The box 1 may be made of any suitable material. Wood, for example, may be used with perfect safety, because the flash is so quick that there is not sufficient time for the wood to become ignited.

The advantage of confining the powder until it is substantially all ignited consists in securing the almost instantaneous complete combustion of the powder. Consequently no lagging flash is permitted, such as frequently results in the fogging of photographic plates or the blurring of the objects being photographed.

In the use of these devices there is no danger of accident due to the spilling out of any of the flash-light powder, because the spreader 3 serves to confine the same properly in place until the instant of the explosion.

What I claim is—

1. A flash-light cartridge comprising a receptacle, a spreader supported therein, a flash-light powder within said receptacle and underneath said spreader, and means for igniting the flash-light powder.

2. A flash-light cartridge comprising a receptacle, a central support therein, a spreader carried by said support, a flash-light powder within said receptacle and underneath said spreader and confined thereby, and means for igniting the flash-light powder.

3. A flash-light cartridge comprising a cylindrical receptacle, a central supporting stud or post, a flash-light powder within said receptacle and surrounding said post, a disk-like spreader supported on said post and of a size corresponding substantially to the interior dimensions of said receptacle, and means for igniting said flash-light powder.

ARTHUR EASTMAN COLGATE.

Witnesses:
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