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(71) Applicant: **SHIRAS GEORGE T (US)**

(72) Inventor: **SHIRAS GEORGE T (US)**

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(54) **FLASH-LIGHT APPARATUS**

(54) **APPAREIL DE LUMIERE A ECLAT**

The undersigned GEORGE T. SUPPES, of the City of Allegheny, County of Allegheny and State of Pennsylvania, Attorney-at-Law, hereby appoints William L. Pierce, 170 Fourth Avenue, Pittsburg, Pa., his attorney, with full power of substitution and revocation, to prosecute an application for new and useful improvements in Flash Light Apparatus; to sign the drawings, to receive the Patent and to transact all business in the Patent Office connected therewith.

Signed at Pittsburg, this 29<sup>th</sup> day of June, 1896.

In the presence of

*Wm. L. Pierce*

*George T. Suppes*

SPECIFICATION.

TO ALL WHOM IT MAY CONCERN:-

Be it known that I, GEORGE T. SUPPES, Attorney-at-Law, a citizen of the United States, residing at Allegheny, in the State of Pennsylvania, U. S. A., have invented new and useful improvements in Flash Light Apparatus, of which the following is a specification.

In the accompanying drawings which make part of this specification, Fig. 1, is a perspective of my apparatus with lid raised, and a portion of the side and end broken away,

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showing trigger in position to fire.

Fig. 2, is a central longitudinal section of Fig. 1, showing hammer driven forward and explosion about to take place. Fig. 3, is an enlarged section of the flash light powder box and support for same; Fig. 4, is a like section with Fig. 3, but showing the ordinary magnesium powder box with fuse connection to explosive; Fig. 5, an under plan of the box with supporting pins broken off and Fig. 6, is a detail of trigger and push pins.

In daylight photographic art the detective or instantaneous cameras have made possible results that could not be obtained by the cumbersome triped instruments which required time to adjust, and with which no secrecy was possible.

The use of these detective cameras at night has been embarrassed by the want of a portable quick firing flash light apparatus.

Prior to my invention the usual method of producing artificial illumination for photographic purposes was to throw magnesium powder, ordinarily by air pressure, into the flame of an alcohol lamp.

The lighting of an alcohol lamp and the injecting the powder into the flame involved delay and publicity, besides requiring virtually two sets of apparatus, and one fed by liquid material not always accessible nor easy to carry.

Another and more primitive way of producing a flash light was by lighting a box of flash light powder by means of

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a face or left of junction through or under the magnesium powder.

The magnesium powder here was contained in a box like the ordinary pill box and this box is firing, rested loosely on a piece of a broken plate or other equally crude support.

This latter method also produced slow firing, afforded no security of position for the powder box and there was danger of the discharge flashing in the face of the operator.

The present contrivance is intended to give to cameras designed for instantaneous use, the same desirable features for night use, which they already possess for daylight photography. Furthermore, I provide a safe and convenient receptacle for carrying and burning flash light powders, whether the ignition be produced while the apparatus is held in the hand, or by securing the apparatus to some stationary object and firing at a distance by means of a cord or equivalent device connected with the trigger.

I also preferably but not essentially combine with the same a lid which acts both as a reflector for the flash and a shield for the operator, when fired in the hand.

In the accompanying drawings which make part of this specification, 1, is the box proper containing the operative parts. I prefer to make this of spanned tin. The inside may be enamelled or painted white to add to the reflection as well as the lid and wings.

The lid 2, I prefer to make with folding wings 3,3, which increase the size of the reflector and shield.

The lid has a suitable snap 4 to engage with catch 5, on box 24, is a spring to hold lid vertical when up. Upon the bottom of the box I secure by screws a bed plate 6 which carries a sleeve 7, in which moves a firing pin 8, actuated by spring 9. 10, is a button by which firing pin is drawn back. The sleeve is slotted to prevent of the movement of this button.

The firing pin is notched at its rear end at 11, to engage with the catch of a spring trigger 12. 13, is a push pin extending through the side of the box and loosely connected with trigger. 14, is a safety catch to prevent premature explosion. 15, is a stud or forward end of spring trigger to which may be attached cord 16, when distance firing is desirable. At the forward end of bed plate 6 and in line with firing pin 8, is the support 17 for flash light powder box. This support is recessed to receive an explosive cup 18. 20 is the flash light powder box having opening in bottom to receive flash from explosive. I prefer to put gun cotton 21 in bottom of box to make the ignition quicker and more uniform.

I also prefer to use a metal box for the flash light powder and when the opening is made in the bottom the flaps of metal are turned back as seen s.a., seen in Figs 3 and 5.

The support 17, has horizontal pins 22,22, which slip under these ears s.a., and hold the box in position.

To prevent the scattering of the powder, I prefer to use a loose tray 23 by the back edge of which the powder is kept from scattering rearwardly.

From the ordinary pasteboard box with a fuse is used the box may be pierced by the pins 22, 22, and the fuse brought in contact with the explosive as seen in Fig. 4.

I prefer the apparatus as seen in the drawings, but the following modifications may be made. The wings on the lid, or even the entire lid may be omitted. Catch 13 may be omitted.

When used for long distance firing, or even under some other circumstances, the bed plate 6 may be uncrewed from the bottom of the box and secured to any support and the box entirely dispensed with it, by using screw holes 25, 25.

When held in the hand the cord 18 and stud 15, may be omitted.

Instead of groove 7 any depression in the bottom of the box or any guide may be substituted. Tray 23 can be taken away. Numerous equivalent devices for securing the powder box aside from the pins and ears may be used.

The form and shape of the powder box may be widely varied. For instance, a powder box extending the full width of the inclosing box may be used. Powder boxes may be made of any material and with or without covers. The Seaville and Adams' magnesium cartridges may be used.

I prefer however to use a metal box with a lid to avoid shilling when carrying, and then remove the lid when

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firing.

Bed plate 6, can be omitted and firing pin and box support be directly in bottom of box. The position of the explosive relative to the powder box may ~~be~~ also be changed, as it would be possible to put it on the sides thereof or even above. The spring trigger may be indefinitely modified and the spring transfer. The firing pin being drawn back cocks itself.

To use the apparatus, all that is necessary is to throw up the box lid of powder box, if of metal, and if the trigger has been previously set, push in pin 13. If the safety catch is used this must be previously raised, or the trigger may not be set until occasion requires.

For distance firing when the apparatus is not held in the hand, the safety catch must be raised if used and the lid of the box proper raised and the lid of the powder box removed if of metal. Either of the above operations will require only a few seconds to perform, and therefore make the use of the camera well nigh as instantaneous at night as in the day time.

By the aid of my apparatus, the detective camera may be used at night, or in dimly lighted premises to accomplish results heretofore difficult of accomplishment and often impossible.

Yet, while specially designed for instantaneous work in doors and out, it can be so adjusted as to be convenient-

ly used in ordinary flash light photography, or for any other purposes requiring a flash light.

Briefly then it is claimed that this invention serves the following useful purposes.

1st. The production of a compact and safe receptacle wherein the metal box when closed contains the complete flash light apparatus and powder for use therein, and when opened for use possesses no superfluous parts but all contribute to the different functions shown in the design or drawing.

2nd: When loaded and primed can be drawn from the pocket and fired in half a second, before the purpose of its use could be divined.

3rd. Can be used in streets or a lane at night, for the most difficult and dangerous detective work or equally well in interiors, whether in the cellar or garret or in hallways, doorways, porches, in warehouses or vehicles or anywhere and everywhere that fancy or design suggests.

4th. By setting the extra spring trigger and affixing the apparatus to a support, may be fired at any distance or it may be so set as to be exploded involuntarily by any person passing within a given distance of the apparatus thus making possible important photographic results without either fatigue or danger of detection to the photographer.

Having described my invention I claim,

1. The construction of a box; a flash light powder box contained in the same; an explosive in close proximity

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Having described my invention I claim,

1. The construction of a box; a flash light powder box contained in the same; an explosive in close proximity

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with said powder box, means for firing said explosive and a lid to said first nested box, to act as a reflector and shield when thrown up.

2. The combination of a box; a cover for the same having a folding wing on said lid; a flash light powder box contained in said first box, an explosive in proximity with said powder box and means for firing said explosive.

3. The combination of a box; a support in said box for a flash light powder box; said powder box having an opening in the bottom and wire on said bottom and pins extending from said support to slip through said wire.

4. The combination of a box; a support in said box for a flash light powder box; said flash light powder box; an explosive lodged in said support and a firing pin to discharge said explosive.

5. The combination of a box; a removable bed plate in said box having a guide for a spring actuated firing pin; said firing pin; an explosive in the line of contact of said pin and a flash light powder box in proximity with said explosive.

6. The combination of a box; a flash light powder box contained in said box; a fuse extending from said powder box; an explosive in proximity to said fuse, and a spring actuated firing pin to discharge said explosive.

7. The combination of a box; a flash light powder box contained in said box; an explosive in proximity to said powder box; a spring actuated firing pin to discharge said

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explosive; a trigger to hold said pin and a pushing device to release said trigger.

5. The combination of a box; a flash light powder box contained in said box; an explosive in proximity to said powder box; a spring actuated firing pin to discharge said explosive; trigger to hold said pin and a pulling device to release said trigger.

Signed in the presence of

*Wm L. Pierce*  
*M. W. Loaskey*

*George T. Shiras*

Pittsburg, Pa.,  
June 29, 1895.

State of Pennsylvania )  
                                  ) ss.  
County of Allegheny. )

I, GEORGE T. SHIRAS, of the City of Allegheny, in the County of Allegheny, and State of Pennsylvania, Attorney-at-Law, here oath and say, that I verily believe that I am the inventor of the new and useful improvements in Flash Light Apparatus, described and claimed in the specification in duplicate relating thereto, and for which I solicit a Patent by my petition, dated June 29th, 1895. And I further say that the several allegations contained in the said petition are respectively true and correct.

*George T. Shiras*

Seen before me at the City of Pittsburg, Pa. 29th day of June, 1895.

*Lucy Sorey Cairns*  
Notary Public

# Flash Light Apparatus.

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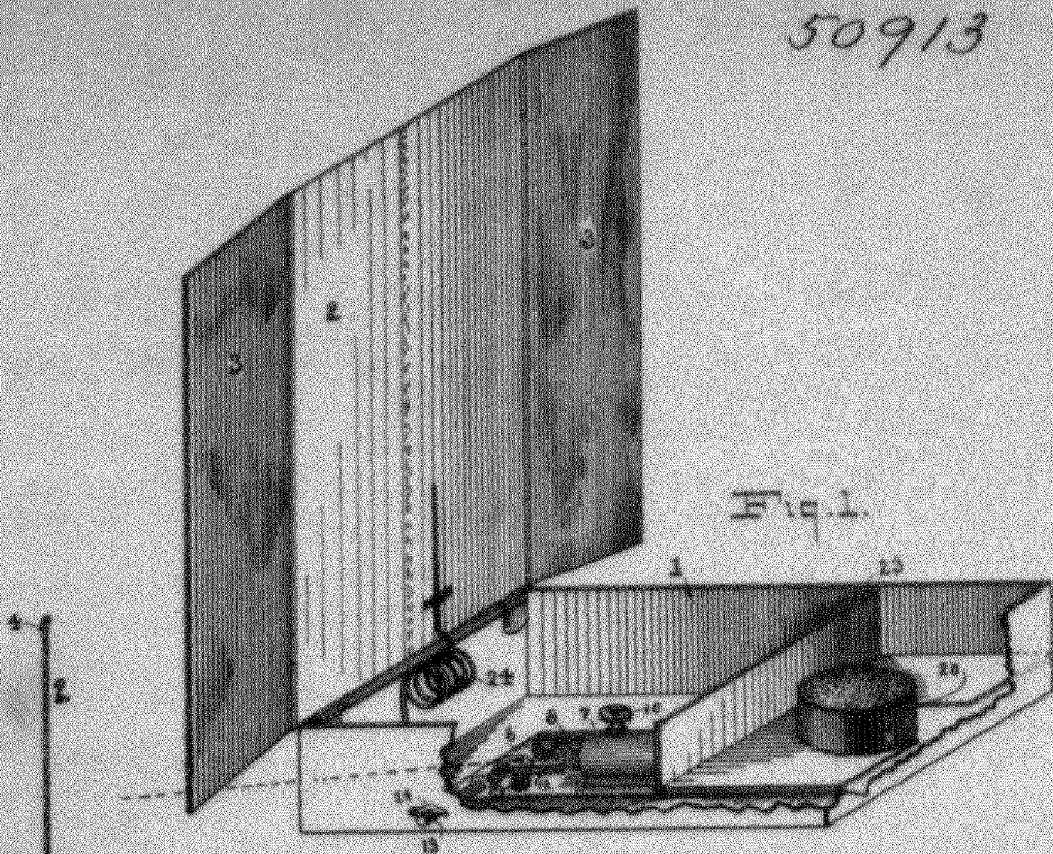


Fig. 1.

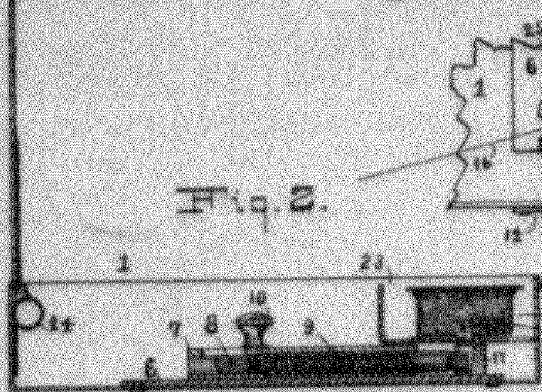


Fig. 2.

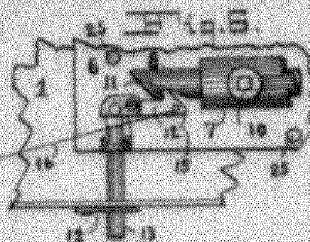


Fig. 3.

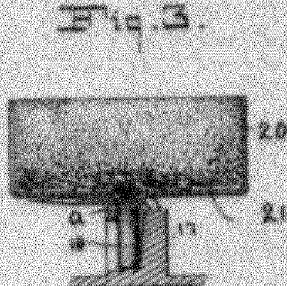


Fig. 4.

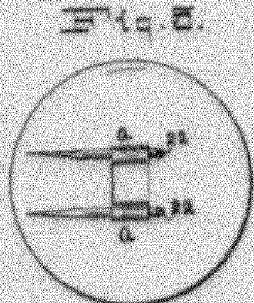


Fig. 5.

Certified to be the drawing referred to in the specification herewith annexed.

Attest  
 M. W. Coakley.  
 Samuel S. Richard.

Pittsburgh, Pa. June 29<sup>th</sup>, 1895.

G. J. Shisco, Inventor

Wm. L. Pierce  
 Atty. for Applicant.