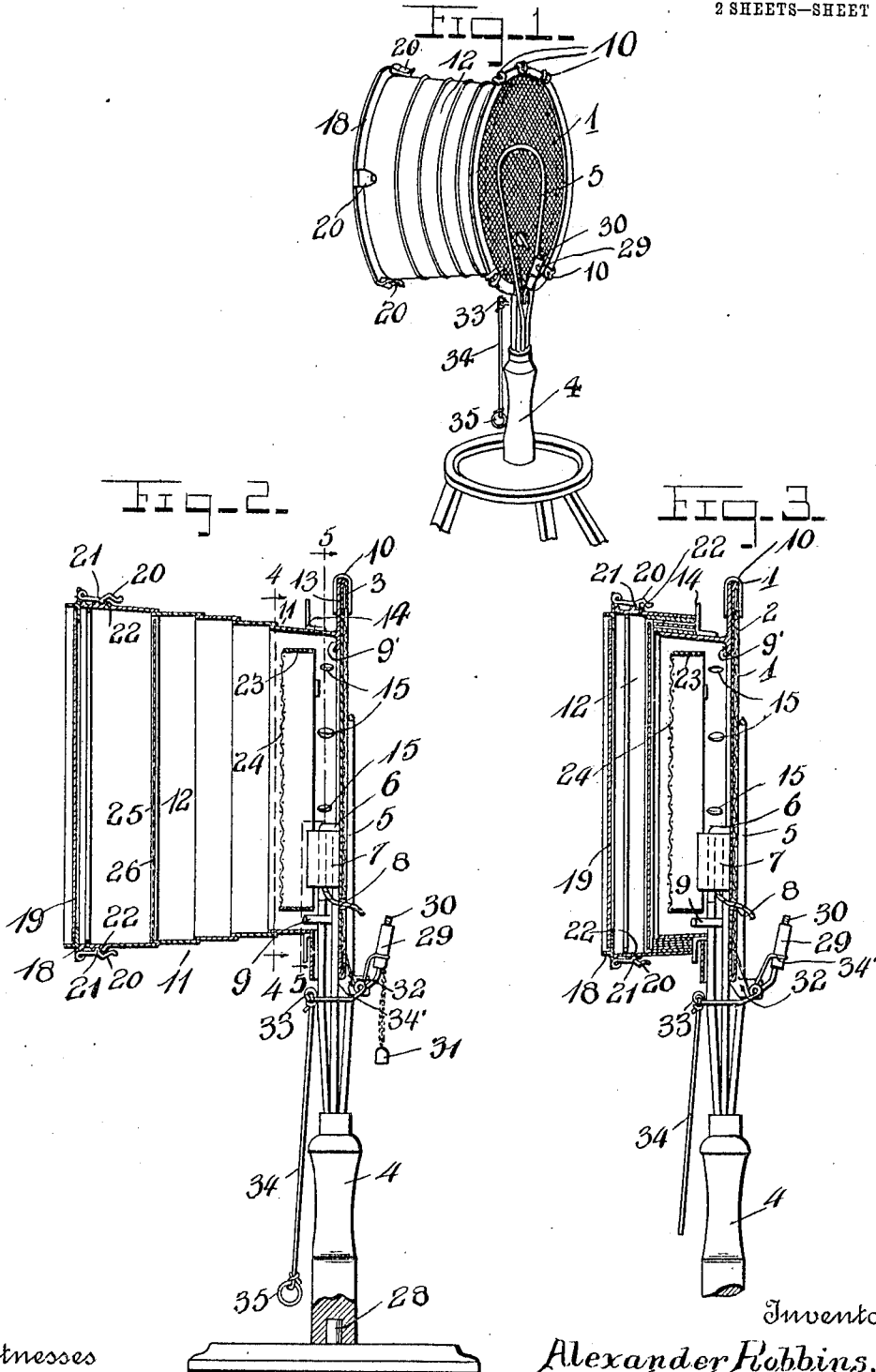


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FLASH LIGHT DEVICE.  
APPLICATION FILED JULY 1, 1909.

949,198.

Patented Feb. 15, 1910.

2 SHEETS—SHEET 1.



Witnesses  
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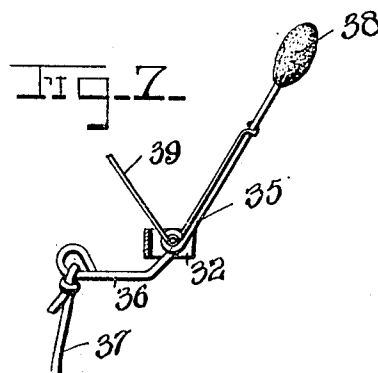
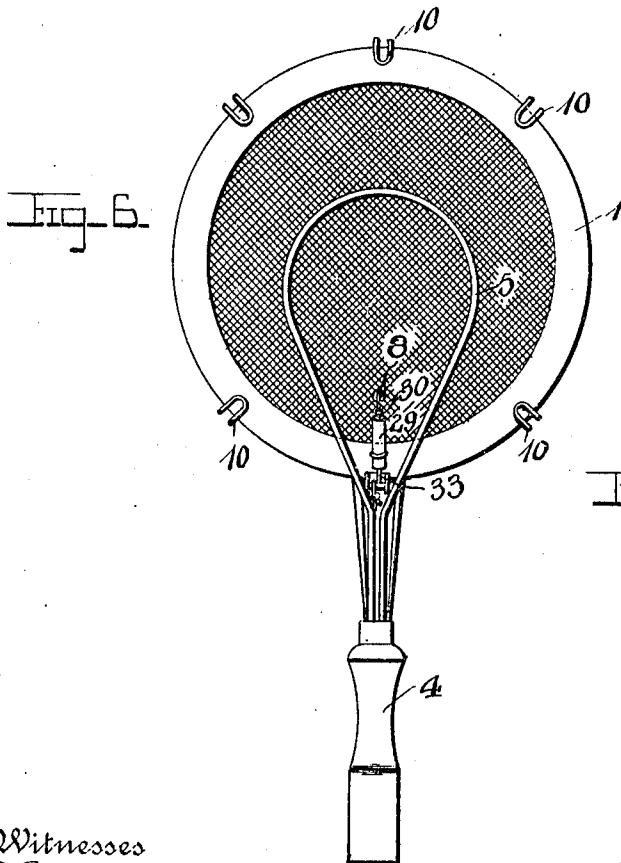
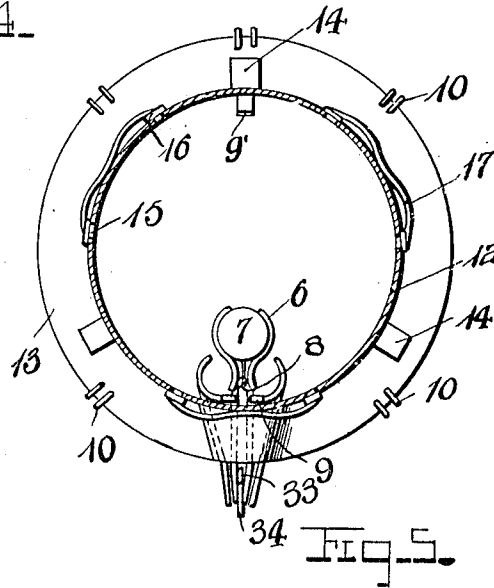
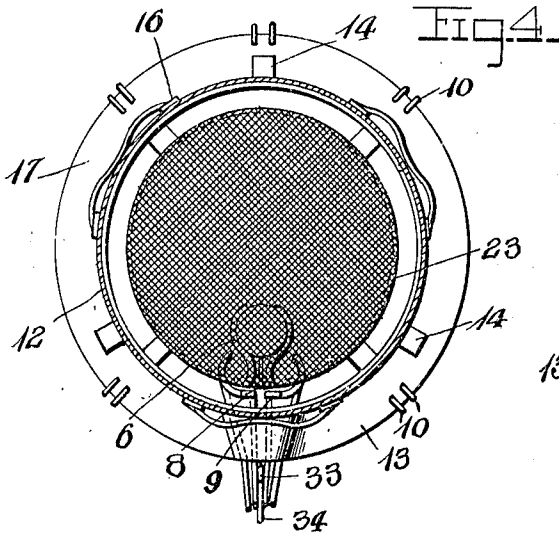
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Attorneys

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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

ALEXANDER ROBBINS, OF PITTSBURG, PENNSYLVANIA.

## FLASH-LIGHT DEVICE.

949,198.

Specification of Letters Patent. Patented Feb. 15, 1910.

Application filed July 1, 1909. Serial No. 505,416.

*To all whom it may concern:*

Be it known that I, ALEXANDER ROBBINS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Flash-Light Devices; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in flash light apparatus.

One object of the invention is to provide an improved construction of flash light apparatus having in connection therewith a smoke retaining device whereby the smoke and gases resulting from the burning of the flash light material will be retained and may be carried from the room and discharged into the outside atmosphere.

Another object is to provide a device of this character which may be telescoped or folded together into small compact form when not in use.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of a flash light apparatus constructed in accordance with the invention, showing the device expanded and in position for use; Fig. 2 is a vertical longitudinal section of the same; Fig. 3 is a similar view, showing the receptacle folded; Fig. 4 is a cross sectional view on the line 4—4 of Fig. 2; Fig. 5 is a similar view on the line 5—5 of Fig. 2; Fig. 6 is a rear view of the device; Fig. 7 is a detail view of a modified form of igniter.

Referring more particularly to the drawings, 1 denotes the back or base plate of the apparatus, said plate being preferably in the form of an asbestos disk of circular form covered on its outer side with a wire netting back 2 and around its edge with a binding strip 3. To the back plate 1 is secured a supporting handle 4, the upper portion of which is in the form of an outer loop-shaped wire frame 5 and a series of spring wire flash light supporting tines 6, the upper ends of which are bent in position to clamp between themselves a flash

light cartridge 7, the fuse of which is extended through an opening 8 in the back plate in position to be engaged with an igniting mechanism hereinafter described. The upper ends of the cartridge clamping tines are also bent to form a support 9 for a receptacle to contain the loose flash light powder. On the inner side of the plate 1 at its upper edge is arranged a spring clip 9' adapted to secure the flash light sheets when this form of light is employed.

Secured to the back plate 1, preferably by suitable clips 10, is a smoke retainer 11 which is formed of a series of telescopic rings 12, the inner one of which is provided with an annular outwardly projecting flange 13 which engages the back plate 1 and is secured thereto by the clips 10. On the outer side of the inner section of the retainer, is formed a series of radially projecting stops 14 with which the outer sections of the retainer are engaged when said sections are folded or telescoped together. In the inner section or ring of the retainer, is formed a series of relief ports 15 which are covered by disks 16 held in operative engagement therewith by springs 17. By means of the relief ports 15, the compressed air resulting from the explosion or ignition of the flash light powder is permitted to pass out of the retainer and the pressure in the retainer thus relieved.

Hingedly connected to the outer edge of the outer ring or section of the retainer is an open annular frame 18 which is covered by a fine light-diffusing fabric 19, which is preferably formed of fire-proof material and is adapted to modify or relieve the strong glare of the flash light. The frame 18 is adapted to closely fit the outer edge of the outer section or ring of the retainer and said frame is held in closed position by suitable fastening devices which are here shown and are preferably in the form of latches provided with studs 21 which are sprung into engagement with resilient sockets 22 arranged on the outer side of the retainer, as shown.

Secured to the inner side of the inner ring or section of the retainer, immediately in front of the back plate 1, is an annular ring or frame 23, to the outer edge of which is secured a wire netting screen 24 which prevents any sparks from the flash light material from flying against the light-diffusing fabric. Also secured to one of the rings or

sections, between the screen 24 and the light-diffusing fabric, is an annular frame or ring 25 in which is arranged a deflecting plate 26 of mica or other suitable material, by means of which additional protection is afforded for the light-diffusing fabric, thus preventing all possible danger of the ignition of the fabric from the flash light.

If desired, the handle 4 may be engaged with a suitable base plate on which is arranged a centrally disposed pivot stud 28 adapted to engage a socket in the lower end of the handle whereby the device is revolvably mounted on the base. The device when thus engaged with the base, may be supported on a tripod or other suitable support (not shown) and when the handle is disengaged from the base plate, the device may be held in the hand, when used.

In connection with the device, I may employ any suitable igniting mechanism, such as an electric sparker, torch or the like which may be operated in any suitable manner. In the present instance, I have shown the igniter in the first figures of the drawings as consisting of a tubular receptacle or container 29 adapted to contain oil or alcohol and in the outer end of which is arranged a wick 30 which, when not in use, may be covered by a cap 31. The lower end of the receptacle 29 is pivotally mounted in a suitable bracket 32 secured to the back plate 1 in any suitable manner and having formed thereon an operating arm 33 to which is connected an operating cord 34 on the lower end of which is arranged a ring 35. The receptacle 29 is so arranged on the back plate 1 that when the upper end of the receptacle is swung forward, the wick will be brought opposite to the fuse opening in the back plate and into engagement with the projecting fuse of the flash light cartridge, thus igniting the same. The receptacle and wick are retracted and normally held out of engagement with the fuse by means of a suitable spring 34' which is connected thereto and bears against the back plate, as shown.

In Fig. 6 of the drawings, is shown a slightly modified form of igniter, the same being shown in this instance, as simply consisting of a supporting bar 35 which is adapted to be pivoted in the bracket 32 on the back plate and is provided with an operating arm 36 to which is connected an operating cord 37. On the upper end of the arm 35 is secured an absorbent material 38 which is adapted to be saturated with a suitable burning fluid and which, when ignited, forms a torch whereby the fuse may be lighted. The arm 35 is provided with a spring 39 to force the same back out of engagement with the fuses when not in use.

By means of a flash light apparatus constructed as herein shown and described, the smoke and gases resulting from the burning

of the flash light material, is confined or retained and may be carried from the room and discharged into the outside atmosphere. By constructing and arranging the flash light supporting tines as herein shown and described, a plurality of flash light cartridges may be supported and simultaneously ignited.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claims.

Having thus described my invention, what I claim is:

1. In a flash light apparatus, a plate, a smoke retainer secured thereto and comprising a series of telescopically engaged sections to provide for the collapsing of said retainer, a hinged frame on said retainer, a light diffusing fabric arranged in said frame, and a series of flash light holding devices arranged within said retainer.

2. In a flash light apparatus, a back plate, a smoke retainer secured thereto, said retainer consisting of a series of telescopically engaged sections whereby said retainer may be collapsed when not in use, a hinged frame on the outer end of said retainer, a light-diffusing fabric arranged in said frame, a handle secured to said back plate, a series of flash light holding devices arranged on said handle within said retainer, and means to protect said light-diffusing fabric from the burning flash light material.

3. In a flash light apparatus, a smoke retainer having formed therein a series of relief ports, spring operated closing disks arranged over said openings, a light diffusing screen arranged on the outer end of said retainer, a handle, a series of flash light holding devices arranged on said handle and projecting into said retainer, a wire netting screen arranged in said retainer between said flash light holders and said light diffusing fabric, and a transparent fire-proof plate arranged between said screen and the light diffusing fabric.

4. In a flash light apparatus, a back plate having formed therein a fuse aperture, a spring clip on said back plate to hold the flash light sheet, a handle secured to said back plate, a series of tines secured to said handle and projecting upwardly on the inner side of said back plate, flash light holders formed on the upper ends of said tines, a supporting base, means to pivotally secure said handle to said base, a collapsible smoke retainer secured to said back plate, and a

fire-proof light-diffusing fabric arranged on the outer end of said retainer.

5 5. In a flash light apparatus, a back plate formed of fire-proof material and having arranged therein a fuse opening, a handle  
10 secured to said back plate, flash light supporting devices on said handle adapted to support a plurality of flash lights on the inner side of said back plate whereby the  
15 fuses of said flash lights are adapted to project through the aperture in said back plate, a smoke retainer secured to said back plate, a light diffusing screen arranged over the outer end of said retainer, and means to ignite the flash light fuses projecting through the opening in said back plate.

20 6. In a flash light apparatus, a back plate formed of fire-proof material and having arranged therein a fuse opening, a handle secured to said back plate, flash light supporting devices on said handle adapted to support a plurality of flash lights on the inner side of said back plate whereby the fuses of

said flash lights are adapted to project through the aperture in said back plate, a 25 smoke retainer secured to said back plate, a light-diffusing screen arranged over the outer end of said retainer, means to ignite the flash light fuses, said means comprising a spring retracted reservoir pivotally 30 mounted on said back plate and adapted to contain a burning fluid, a wick in the outer end of said tube adapted to be brought into engagement with the ends of the flash light fuses, and an operating element connected to 35 said reservoir whereby the latter is swung in position to bring the wick into engagement with the fuses.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 40

ALEXANDER ROBBINS.

Witnesses:

L. H. McCABE,

E. G. REYNOLDS.