L. L. SHIPLEY.

FLASH LIGHT APPARATUS.

APPLICATION FILED JUNE 25, 1914.

1,118,592.

Patented Nov. 24, 1914.

2 SHEETS—SHEET 1

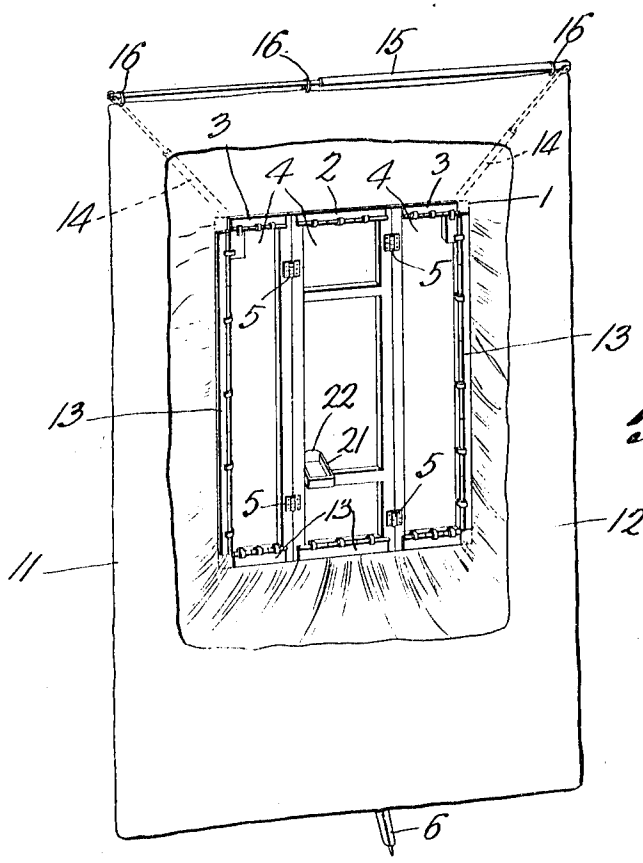


Fig. 1.

Fig. 7.

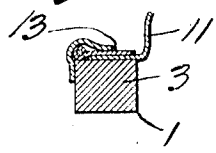
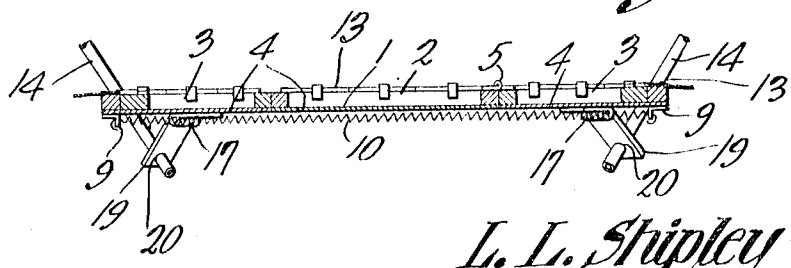


Fig. 4.



Witnesses

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2 SHEETS-SHEET 2.

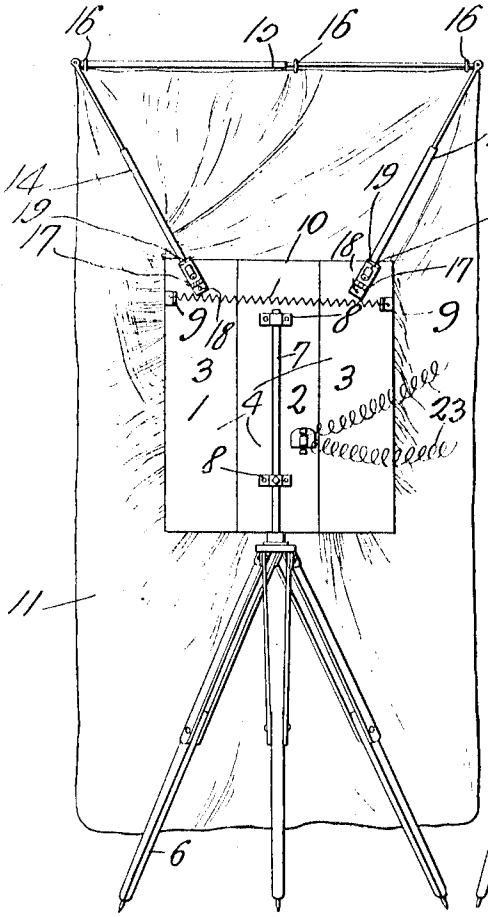


Fig. 2.

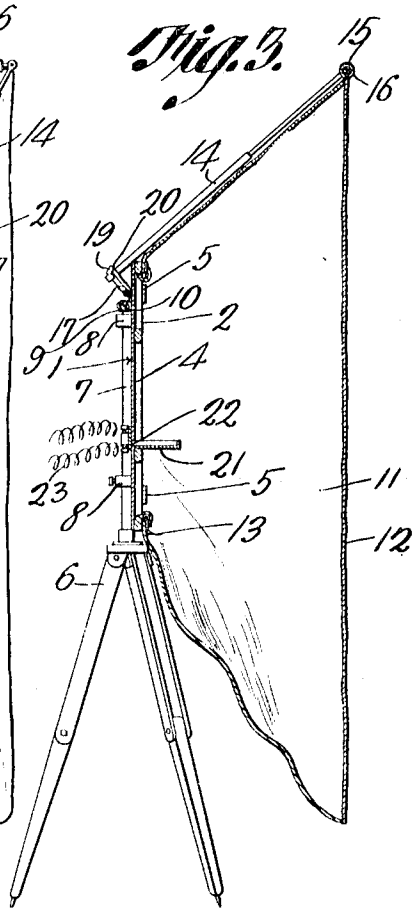


Fig. 3.

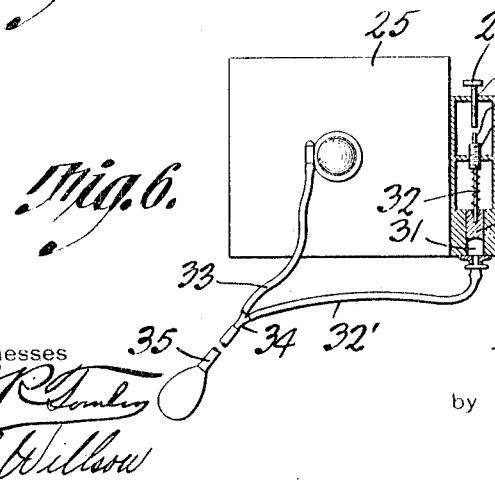


Fig. 6.

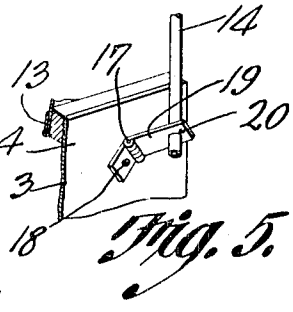


Fig. 5.

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UNITED STATES PATENT OFFICE.

LEVI L. SHIPLEY, OF MARION, OHIO.

FLASH-LIGHT APPARATUS.

1,118,592. Specification of Letters Patent. Patented Nov. 24, 1914.

Application filed June 25, 1914. Serial No. 847,289.

To all whom it may concern:

Be it known that I, LEVI L. SHIPLEY, a citizen of the United States, residing at Marion, in the county of Marion and State of Ohio, have invented a new and useful Flash-Light Apparatus, of which the following is a specification.

The present invention appertains to a flash light apparatus, and aims to provide a novel and improved contrivance of that character.

The present invention contemplates the provision of a bag or envelopment in which photographic flash light powder may be burnt, to thereby confine the smoke and products of combustion therein, unique means being provided for supporting the bag or envelopment.

Another object of the present invention is to provide in a flash light apparatus, a bag or envelopment and adjustable supporting means therefor, the bag and supporting means being collapsible or foldable in order that the same may be readily stored away or carried about, when not in use.

It is also within the scope of the present invention to improve generally, the construction of the apparatus, to enhance the utility thereof, and to render the apparatus comparatively simple, substantial and inexpensive in construction, as well as promoting the serviceability, and efficiency thereof.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention has been illustrated in its preferred embodiment in the accompanying drawings, wherein:—

Figure 1 is a front perspective view of the flash light apparatus, a portion of the bag or envelopment being broken away to illustrate the interior. Fig. 2 is a rear view of the apparatus. Fig. 3 is a vertical section thereof. Fig. 4 is an enlarged detail cross section taken along the spring and looking from below. Fig. 5 is a fragmentary perspective of one of the devices for holding one of the supporting arms. Fig. 6 is a detail view illustrating the ignition controlling device applied to the camera, parts being shown in section. Fig. 7 is a sectional detail.

In carrying out the present invention, there is provided a foldable back 1 comprising a central or median frame or section 2 and side frames or sections 3, a sheet metal panel 4 being secured to the rear face of each of the frames or sections 2 and 3. The frames or wings 3 are hinged to the central frame or body portion 2, by means of hinges 5 secured to the adjacent edge portions of the frames 2 and 3 upon the front faces of the said frames, whereby the frames or wings 3 may fold forwardly, and will be limited in their rearward movement with respect to the frame or body 2.

As a means for supporting the back 1, there is provided an ordinary tripod 6, which is equipped with a standard 7. Clamps or keepers 8 are attached to the rear face of the frame or section 2 of the back 1 and are arranged to receive the standard 7, to thereby hold the back 1 upon the front side of the standard 7 above the tripod 6.

In order to hold the frames or sections of the back 1 in open or unfolded position, members 9 are attached to the rear faces of the sections or wings 3 adjacent their free edges and adjacent their upper ends, and a coiled wire retractile spring 10 is disposable across the rear face of the back 1 and has its ends arranged to be hooked through or otherwise engaged with the members 9, to thereby maintain the sections or wings 3 flush with the section or body 2.

The bag or envelopment 11 is provided with a transparent front or face 12, and its sides, bottom and top are of suitable opaque material. The bag 11 is provided with a rear opening or mouth, and the side, upper and lower edges of the rear opening or mouth are tucked and clamped behind spring pressed strips 13 which are hinged to the front side of the back adjacent its side edges and upper and lower ends. The strips 13 are thus arranged to clamp the edges of the bag against the marginal portion of the back 1, whereby the back 1 will be disposed within and close the mouth or opening of the bag when the apparatus is assembled for use.

As a means for supporting the bag or envelopment 11, there is provided a pair of forwardly and upwardly diverging supporting arms 14, which are preferably extensible and contractible, or which embody telescopic sections. The forward or upper ends of the supporting arms 14 are connected by a telescopic or extensible beam or spreader 15, the ends of the beam or spreader 15 being pivotally or loosely connected to the forward or upper ends of the arms 14. The upper end of the front 12 of the bag is adapted to be attached to the beam or spreader 15 by means of clasps, or similar elements 16, to thereby support the front of the bag from the upper ends of the supporting arms 14, it also being noted that the mouth of the bag being attached to the front face of the back 1 will assist in supporting the bag.

The rear or lower ends of the supporting arms 14 are applied to the upper end of the back 1 in a peculiar manner, and to this end, a pair of hinges 17 are provided. One leaf of each hinge 17 is pivoted to the rear face of one of the sections or wings 3 of the back 1 adjacent the upper free corner of the said sections 3, as at 18. The other or free leaf 19 of the hinge 17 is provided with an aperture 20 through which the rear or lower end of the arm 14 is inserted. The arms 14 rest upon the upper ends of the sections or wings 3. The hinges 17 are so arranged, as to hold the arms 14 in an inclined position when they rest upon the upper end of the back 1, and the hinges 17 being pivoted as at 18, to the rear faces of the back sections 3, enable the hinges 17 to be swung according to the angular positions of the arms 14 when the beam or spreader 15 is extended or contracted. In other words, the hinges 17 are arranged to adjust themselves whereby the axes of the hinges 17 will always be disposed at right angles to the planes in which the supporting arms 14 are swingable.

The flash light powder is held within a pan or receptacle 21 which is insertible, from the rear, through an opening 22 provided in the frame or body section 2 of the back 1, the pan or receptacle 21 being provided with any suitable sparking or ignition means to which the electrical conductors 23 are connected.

The ignition controlling device 24, which is preferably attached to the camera 25, includes a frame 26, having an adjustable contact screw 27 at its upper end to which one of the conductors 23 is connected. A contact needle 28 is slidable through an adjustable bushing 29 threadedly mounted within the frame 26, the upper end of the contact needle 28 being adapted to abut against the lower end of the contact screw 27, and the lower end of the needle 28 being attached to a plunger 30 slidably mounted within an air chamber 31 provided in the lower end portion of the frame 26. A coiled wire spring 32 is disposed about the needle 28 between the bushing 29 and plunger 30, to normally depress the plunger 30 and the needle 28 carried thereby. A tube 32′ is connected to the lower end of the air chamber 31, and a tube 33 is connected to the shutter-actuating means of the camera 25, the two tubes 32′ and 33 being connected to a Y-coupling 34 which is in turn connected to an air bulb 35. Thus, the ignition controlling device 24 may be connected in circuit with the ignition device provided upon the pin 21, as will be obvious to those versed in the art.

In use, the present apparatus may be readily set up, the back 1 being first unfolded and the holding spring 10 applied to the members 9 of the back to maintain the back in unfolded or flat condition. Then, the edges of the bag 11 may be tucked behind and clamped by the strips 13, and the back 1 may then be applied to the tripod 6 by slipping the clamps or keepers 8 downwardly over the standard 7 of the tripod. The supporting arms 14 may then be applied to the leaves 19 of the hinges 17, as above indicated, and the upper end of the bag 11 may then be attached to the beam or spreader 15 by the clasp elements 16, in which event the bag 11 will be hung from the supporting means 14—15 and the back 1. The flash pan 21 may then be filled with the flash light powder and inserted through the opening 22 of the back 1, to project within the bag or envelopment 11. The apparatus will then be in condition for taking a flash light picture, whereby when the object to be photographed is properly arranged, the operator or photographer may press the bulb 35 to simultaneously open the shutter of the camera 25 and to raise the plunger 30 to close the circuit through the conductors 23 by bringing the contact needle 28 into engagement with the contact screw 27. Instantly, the flash light powder within the pan 21 will be ignited to set off the powder simultaneously with the opening of the camera shutter, it being noted that the transparent front 12 of the bag will permit the passage of light therethrough from within the bag, as the powder is burnt, to illuminate the object properly. In this manner, it is possible for the operator or photographer to conveniently and accurately operate the camera and ignition means, whereby the object will be properly photographed. It is of course understood, that the ignition controlling device 24 may be provided with an ordinary switch, for closing the circuit through the conductors 23, independent of the movement of the camera shutter, whereby the shutter may first be opened, it being assumed that the room or chamber in which the apparatus is disposed, is dark, and then, the ignition circuit may be closed to ignite the flash light powder.

The bag 11 being smoke-tight, will retain the products of combustion therein, the dust or particles settling into the lower portion of the bag 11 instead of being permitted to be promiscuously blown about in the room, as usual. Furthermore, the provision of the bag 11 having opaque sides and upper and lower ends, in connection with the opaque back 11, will serve to deflect or direct the light rays forwardly through the transparent front panel 12 of the bag, in order that the object may be effectively illuminated. The position of the bag 11, or its front panel 12, may be adjusted, by adjusting the supporting arms 14 and the beam or spreader 15, as will be obvious.

When the apparatus is to be collapsed or folded up for the purpose of storage or conveyance, the bag 11 is detached from the supporting means 14—15 and is detached from the back 1, and the arms 14 and tripod 6 are detached from the back 1. Then, when the spring 10 is detached from the sections or wings 3 of the back, the flash pan 21 preferably having been withdrawn from the back 1, the sections or wings 3 of the back may be swung or folded forwardly, so as to form a receptacle for receiving the other parts of the apparatus. Thus, the bag 11 may be folded and placed between the folded sections or wings 3 of the back 1, as well as the tripod 6 and its standard 7 when they are folded or collapsed. The arms 14 and beam 15 may also be contracted and folded together and placed within the wings or sections 3, as well as the spring 10 and pan 21. It will thus be obvious that the present apparatus may constitute a portion of a portable photographic outfit, which may be readily carried from place to place, and set up for use.

From the foregoing, taken in connection with the drawings, the other advantages and capabilities of the present apparatus will be obvious to those versed in the art, without further comment being deemed necessary.

If desired, a series of bags may be employed, by successively applying them to the back 1, as when a number of photographs are taken. In folding the device, it is not entirely essential that the bag be detached from the back, inasmuch as the bag may be folded within the sections of the back while the bag and back are assembled.

Having thus described the invention, what is claimed as new is:—

1. In a flash light apparatus, a back, a bag, spring pressed strips hinged to the back for clamping the edges of the bag, the bag having a front transparent panel, and supporting means attached to the rear face of the back.

2. In a flash light apparatus a back, forwardly and upwardly diverging arms having their rear ends adjustably supported by the upper end of the back, an extensible beam connecting the forward ends of the said arms, and a bag applied to the back and having its upper end attached to the said beam, the bag having a transparent front panel.

3. In a flash light apparatus, a back, pivoted members carried by the rear face of the back adjacent its upper end, extensible supporting arms having their rear ends engaged to the said pivoted members and resting upon the upper end of the back, an extensible spreader having its ends loosely connected to the forward ends of the said arms, and a bag applied to the back and having its upper end attached to the said spreader, the bag having a transparent front panel.

4. In a flash light apparatus, a back, a pair of hinges having certain leaves pivoted to the rear face of the back adjacent its upper end, the other leaves of the hinges having apertures, supporting arms inserted through the said apertures and resting upon the upper end of the back, a spreader having its ends loosely connected to the forward ends of the said arms, and a bag applied to the back and hung from the said spreader.

5. In a flash light apparatus, a back comprising hinged sections, detachable foldable supporting means for the back, detachable foldable supporting means carried by the upper end of the back, and a foldable bag adapted to be applied to the said back and hung from the last mentioned supporting means, the back when folded, serving as a receptacle for the other elements.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

LEVI L. SHIPLEY.

Witnesses:
JAMES B. BOLANDER,
NONA M. BOLANDER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."