

M. H. KENNEDY.
FLASH LIGHT DEVICE.
APPLICATION FILED MAR. 29, 1911.

1,013,399.

Patented Jan. 2, 1912.

2 SHEETS-SHEET 1.

FIG. 1.

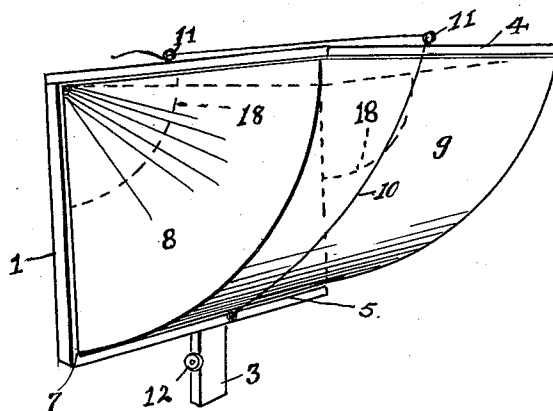


FIG. 2.

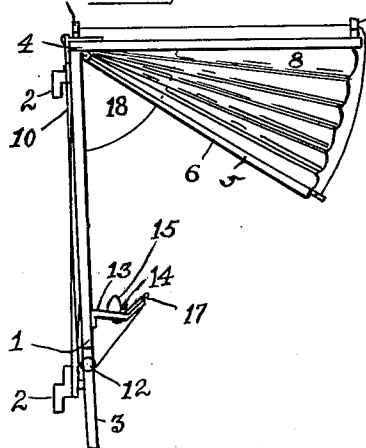


FIG. 3.

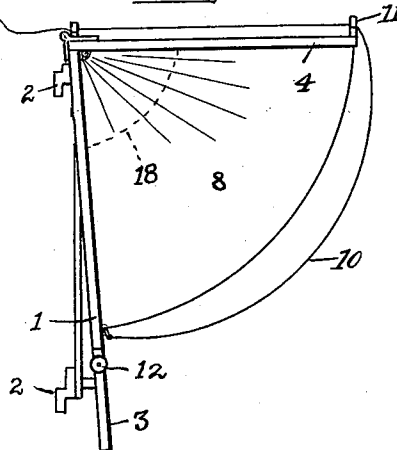
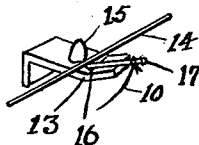


FIG. 4.



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2 SHEETS—SHEET 2.

FIG. 5.

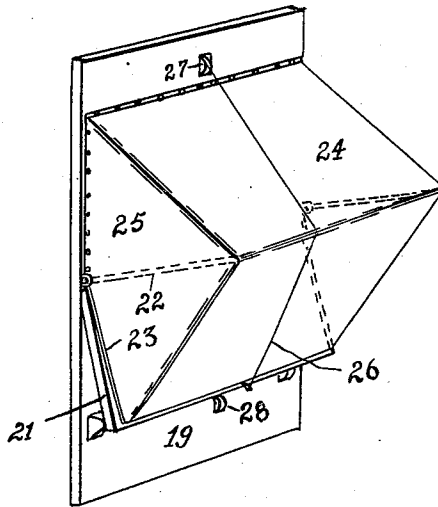


FIG. 6.

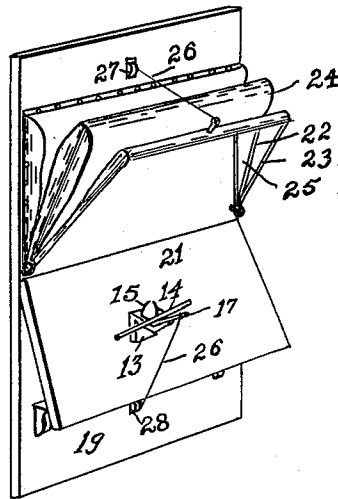
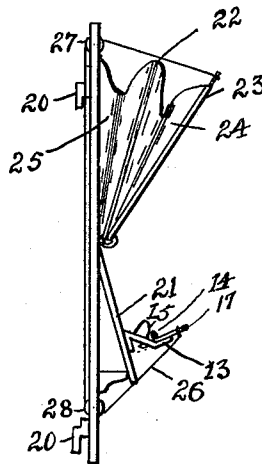


FIG. 7.



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MATTHEW HOWARD KENNEDY, OF NEW BRIGHTON BOROUGH, PENNSYLVANIA.

FLASH-LIGHT DEVICE.

1,013,399.

Specification of Letters Patent.

Patented Jan. 2, 1912.

Application filed March 29, 1911. Serial No. 617,683.

To all whom it may concern:

Be it known that I, MATTHEW HOWARD KENNEDY, a citizen of the United States, and residing in the borough of New Brighton, in the county of Beaver and State of Pennsylvania, have invented or discovered new and useful Improvements in Flash-Light Devices, of which the following is a specification.

My invention consists of a hinged bonnet or inclosure secured above the powder shelf or support of a flash light apparatus and adapted to drop down over the same and catch and confine the products of combustion when the powder is ignited.

The ignition of a charge of flash light powder, used in instantaneous photography and for other purposes, gives rise to a large quantity of fumes and smoke which, if liberated in a room or compartment, are very disagreeable and difficult of dissipation and removal. Numerous methods have been devised for obviating these unpleasant features, such as exploding the powder in an inclosed bag or box, but this method requires a larger charge of powder and is attended, among other things, with an unpleasantly loud explosion. A vertically dropping bag has also been tried but the action of the same is not reliable and its control is difficult. I have provided for this purpose a bonnet or hood, made of fire-proof cloth or similar material, pivoted laterally and adapted, upon the ignition of the charge, to extend itself forwardly and downwardly to catch and contain the products of combustion. I prefer also to provide drop curtains which depend from the top of the device and prevent the lateral escape or spreading of the fumes and smoke before the descent of the bonnet. When not in use, the bonnet is folded up out of the way and held in its retracted position by means which automatically are released by the ignition of the charge. I also provide means for folding the frame work up compactly for storing or transportation.

Other novel arrangements and construction of parts will appear from the following description.

In the accompanying drawings, which, however, are intended merely as illustrative of the principles of my invention and not to limit the scope of the same to the construction shown therein, Figure 1 is a perspective view of my device shown extended; Fig.

2 is a side elevation of the same folded or retracted; Fig. 3 is a similar view of the same extended, and Fig. 4 is a detail in perspective of the powder shelf and trigger mechanism; Fig. 5 is a perspective of a modification shown extended; Fig. 6 is a similar view of the same folded or retracted, and Fig. 7 is a side view of the same retracted.

The following is a detailed description of the drawings, reference being first had to Figs. 1, 2, 3 and 4.

1 is the back board adapted to be supported on a tripod or other support, not shown, with its bottom inclined forwardly, by means of hooks 2—2. To the bottom of board 1 I prefer to secure a short handle or upright 3. The top edge of board 1 is horizontal when the board occupies the inclined position shown in the drawings.

4 is a top board supported horizontally by the top of board 1 and is hinged thereto in such a manner, as shown, so that when the apparatus is to be stored or transported, the board 4 may be folded back over against the rear of board 1.

5 is a bent bail, preferably rectangular, and pivoted at its ends to the under face of board 4 adjacent to the board 1. The bail is preferably provided with a fin or flange 6 which enters a groove 7 in the face of board 1 when the bonnet is extended.

8—8 are pieces of fire-proof cloth or similar material, in the shape of a quadrant of a circle and secured by their straight edges to the faces of boards 1 and 4, respectively, adjacent to the lateral edges of said board.

The sections 8—8 form the sides of the bonnet. The front 9 of said bonnet is made of a section of material similar to that of sides 8—8, secured at its top to the board 4, at its sides to the curved edges of pieces 8—8 and at its bottom to the central portion of the bail 5.

The bonnet is adapted to be folded up against the under face of board 4, as in Fig. 2, and is held in such position by means of a string or cord 10 secured to the central portion of bail 5. The cord 10 extends up outside of the bonnet and is led across the top of board 4 by means of eyes or pulleys 11—11 and down in the rear of board 1, and then up under the roller or pulley 12 on the edge of upright 3 to the powder shelf 13.

14 is the inflammable fuse, in general use for the ignition of the charge of flash light

powder, which is shown contained in the cartridge 15. The fuse is laid across a small slot 16 in said shelf and a match stick 17 or other small and easily consumed element is stuck beneath said fuse in said slot, and the end of the cord 10 looped over the same.

18—18 are side curtains attached to the under side of board 4 just within the side pieces 8—8 of the bonnet and adapted to depend so as to catch and prevent the lateral escape of the products of combustion while the bonnet is dropping.

When the charge is ignited by the combustion of the fuse 14, the stick 17 burns and releases the cord 10, allowing the bonnet to drop forwardly and downwardly over the products of combustion and completely inclosing the same, the fin 6 entering the groove 7 and completing the inclosure against the escape of the fumes and smoke. The side curtains 18—18 hold the products of combustion against lateral escape until the bonnet drops.

In the modification shown in Figs. 5, 6 and 7, I provide a back board 19 which may be vertically supported by means of hooks 20—20 upon a tripod or other support, not shown.

21 is a board secured to the board 19 and extending downwardly therefrom at an angle at about the vertical center of the board 19. The powder shelf 13 is secured to the front of board 21, as shown. At the top of board 21 I pivot to the face of board 19 the ends of two bails 22 and 23, preferably of rectangular form.

24 is a length of fire-proof cloth or similar material, secured at the top to the board 19, at its longitudinal center to the bail 22 and at its bottom to the bail 23. The sides of the bonnet are composed of angular pieces of material, similar to that used in the front piece 24, 25 and 25, as shown in the drawings, secured at their edges to the board 19 and the edges of the front 24, thus completing the bonnet.

The bonnet is normally folded up against the board 19, as shown in Figs. 6 and 7, held in place by means of the cord or string 26 secured to the central portion of the lower bail 23 and extended up, outside of the bonnet, over the pulley 27 mounted in a hole in board 19 and down in the rear of said board 19 to another pulley 28 set in a hole in said board. From the pulley 28 the cord 26 is led up and looped over the stick 17, as in the prior described device. The ignition of the stick 17 releases the cord 26 and allows the bonnet to drop into the position shown in Fig. 5, thus catching and inclosing the fumes and smoke from the flash light powder.

The inclination of the board 1 in the first form of my invention shown and the inclination of the board 21 in the modification

serves to arrest the descending bonnet before its bottom bail reaches the vertical and thus insures a tight inclosure.

It is evident from the foregoing that I have provided a pivotally supported bonnet which, upon the ignition of the powder, is automatically released to descend and inclose all the fumes and smoke arising from the ignition of the charge, thus preventing their escape into the room or apartment.

The bonnet may be lifted from the tripod or other support and carried out of doors to be emptied.

The action of my device is positive and quick enough to catch the fumes and smoke but still gives sufficient opportunity for the desired illumination. It requires but a small charge of powder, so that no unpleasantly loud explosion occurs and powder is economized. Its structure is simple, durable and inexpensive.

What I desire to claim is—

1. A device for catching the products of the combustion of flash light powder composed of a back board forming one side of an inclosure, a bonnet adapted to be folded up away from said board, means for holding said bonnet in its folded position, and means whereby said holding means are released and said bonnet is permitted to unfold down against said board by the ignition of the powder.

2. A device for catching the products of the combustion of flash light powder composed of a back board forming a downwardly and forwardly inclined side of an inclosure, a bonnet adapted to be folded up away from said board, means for holding said bonnet in its folded position, and means whereby said holding means are released and said bonnet is permitted to unfold down against said board by the ignition of the powder.

3. A device for catching the products of the combustion of flash light powder composed of a pivoted bonnet adapted to drop down over the flash, means for holding said bonnet in its elevated position, means whereby said holding means are released by the ignition of the powder, and side curtains depending in such a manner as to prevent the lateral escape of the products during the descent of the bonnet.

4. A device for catching the products of the combustion of flash light powder composed of a folding pivoted bonnet adapted to drop down over the flash, means for holding said bonnet in its folded position, means whereby said holding means are released by the ignition of the powder, and side curtains depending in such a manner as to prevent the lateral escape of the products during the descent of the bonnet.

5. A device for catching the products of the combustion of flash light powder com-

posed of a back board and a top board forming two sides of the inclosure, a bonnet adapted to be folded up against said top board, means for holding said bonnet in its
5 folded position, and means whereby said holding means are released and said bonnet is permitted to drop down against said back board by the ignition of the powder.

10 6. A device for catching the products of the combustion of flash light powder composed of a back board and a top board forming two sides of the inclosure, a bonnet adapted to be folded up against said top board, means for holding said bonnet in its

folded position, means whereby said hold- 15
ing means are released and said bonnet is permitted to drop down against said back board by the ignition of the powder, and means for preventing the lateral escape of the products during the descent of the 20
bonnet.

Signed at Pittsburgh Pa. this 17th day of March 1911.

M. HOWARD KENNEDY.

Witnesses:

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