

R. W. PHELPS & W. L. HARDING.

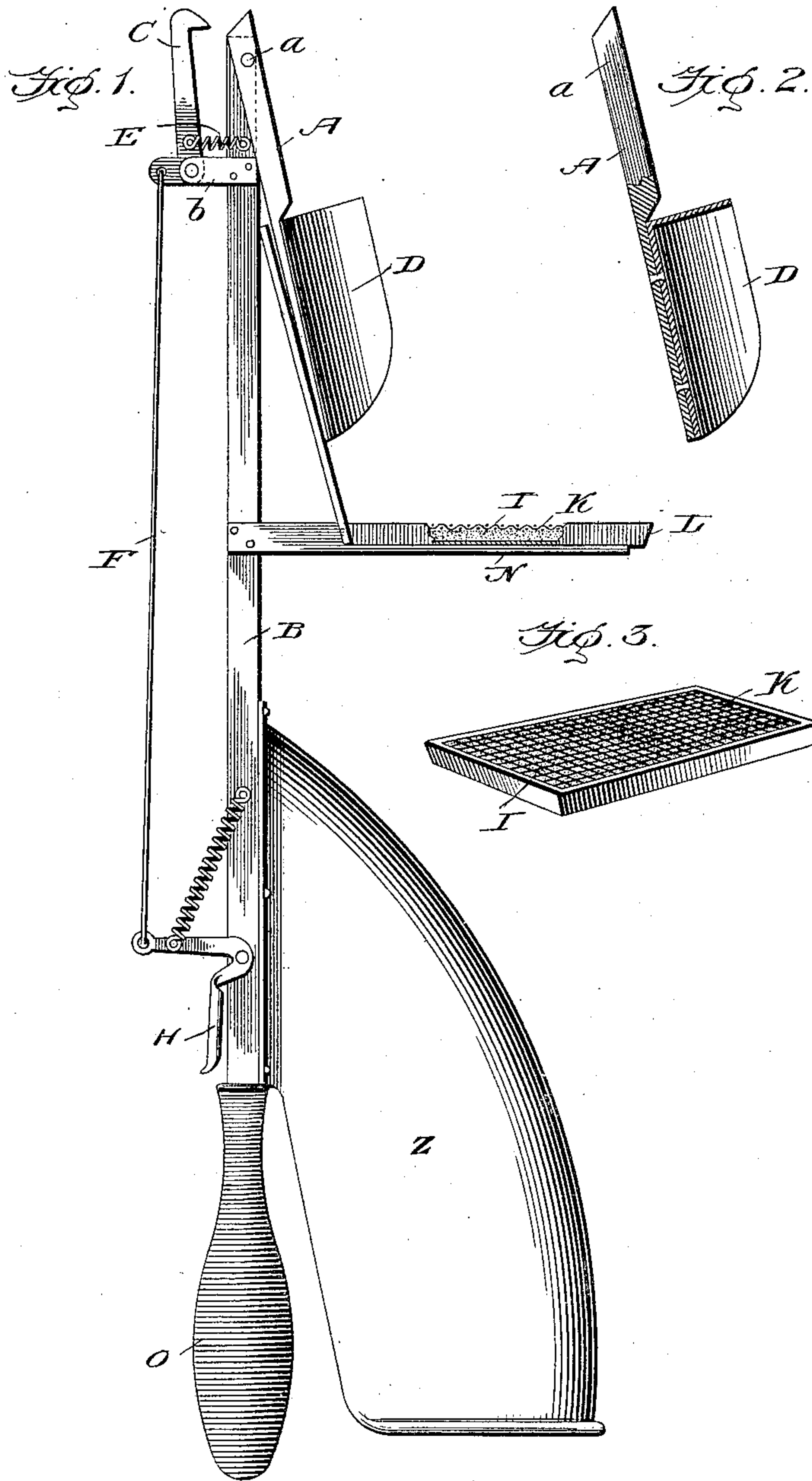
FLASH LAMP.

APPLICATION FILED OCT. 27, 1908.

917,485.

Patented Apr. 6, 1909.

2 SHEETS—SHEET 1.



Witnesses

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R. W. PHELPS & W. L. HARDING.

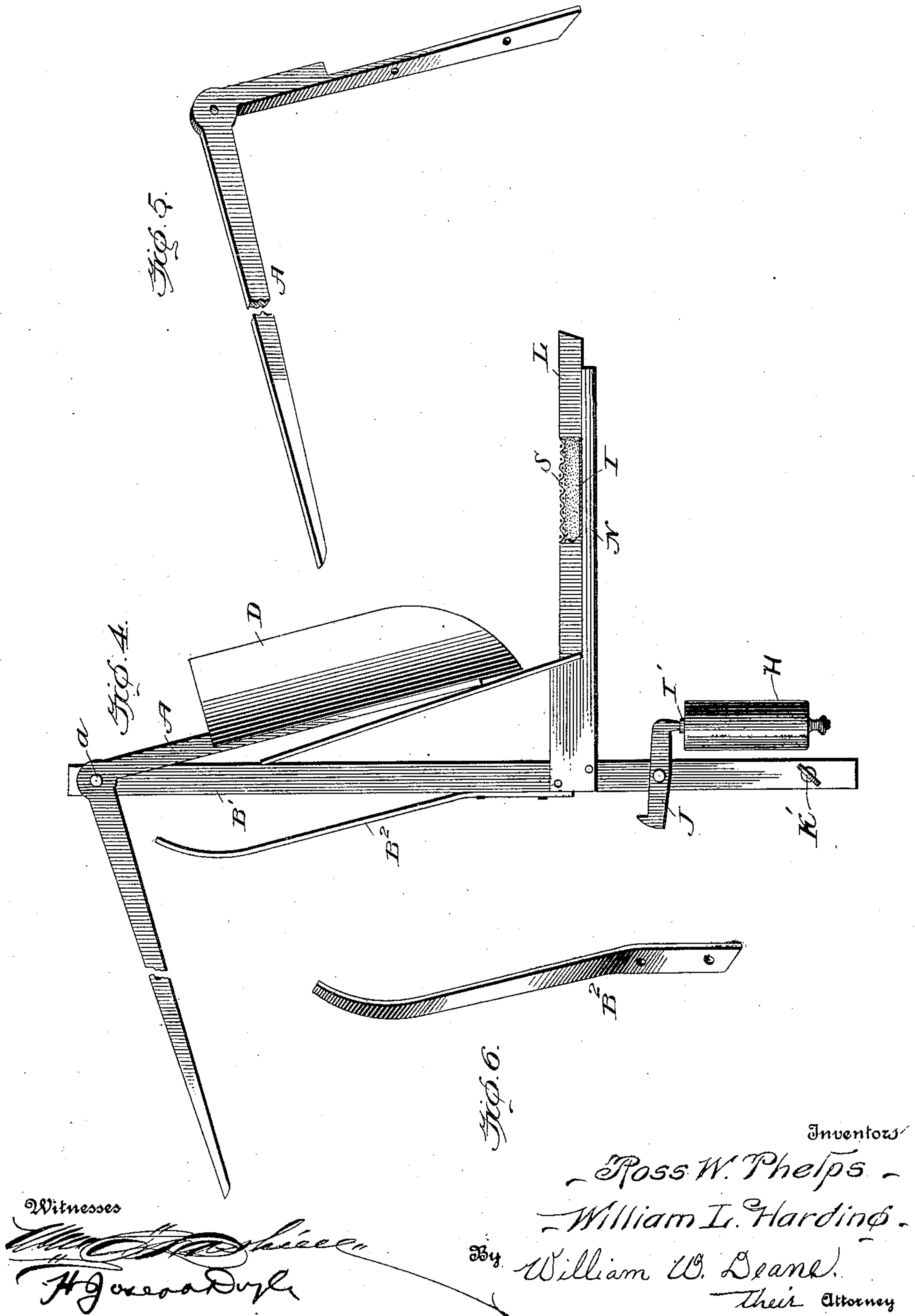
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Witnesses

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By

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# UNITED STATES PATENT OFFICE.

ROSS W. PHELPS AND WILLIAM LLOYD HARDING, OF SIOUX CITY, IOWA.

## FLASH-LAMP.

No. 917,485.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed October 27, 1908. Serial No. 459,689.

*To all whom it may concern:*

Be it known that we, ROSS W. PHELPS and WILLIAM L. HARDING, citizens of the United States, residing at Sioux City, in the county of Woodbury and State of Iowa, have invented certain new and useful Improvements in Flash-Lamps, of which the following is a specification.

Our invention pertains to flash lamps for use in connection with photography; and it contemplates the provision of a lamp that is adapted to use all kinds of powder and is otherwise advantageous and possessed of high efficiency notwithstanding the simplicity and cheapness thereof.

The invention will be fully understood from the following description and claims when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a side elevation of a flash lamp constructed in accordance with our invention and adapted to be held in the hand. Figs. 2 and 3 are details thereof. Fig. 4 is a modified embodiment of our invention designed to be supported by a stand. Figs. 5 and 6 are details of the same.

Referring by letter to the said drawings and more particularly to Figs 1-3 thereof: B is the main frame of our novel flash lamp. The said main frame has a handle O at its lower end and is provided above the handle with a shield Z designed to protect the hand of the operator which shield overhangs the handle O at a sufficient distance to permit of the interposition of the hand between the two.

At a point between the handle O and the upper end of the shield Z the main frame B is equipped with a release lever H between the upper arm of which and the frame B is interposed a tractile spring G, having for its office to give tension to the said release lever H.

Fixed to and extending forwardly from the main frame B at a point above the shield Z is a horizontal platform N on which is supported a tray L. This tray holds an asbestos mat I, designed to be saturated with alcohol or its equivalent, and over said mat is arranged a screen K, preferably of reticulated material, the office of which is to preclude the flames rising too high.

Disposed in rear of the tray L and extending between the supporting platform N and the main frame B is a reflector, the function of which is obvious, while arranged in front

of the reflector and above the tray L is a powder holder D. This latter is carried by a sub-frame or lever A, pivotally connected at *a* to the upper portion of the main frame, and pivoted to a bracket *b* located in rear of the sub-frame A is a lever C for tripping the powder holder D. The lever C is of the bell-crank type and it is held in proper normal position by a coiled spring E and is connected through a rod F with the release lever H.

In the practical operation of the lamp, it will be readily understood that the powder holder D is charged with powder while the sub-frame A and said holder D are retained by the trip lever C in a raised position. Then the alcohol-saturated mat I is ignited, and the lever H is manipulated to disengage the trip lever C from the sub-frame A, whereupon the sub-frame A and the powder holder D will gravitate to the position shown in Fig. 1 and a large and brilliant flash will be occasioned.

The modified construction shown in Figs. 4 to 6 comprises a main frame B<sup>1</sup> adapted to be fastened by a screw K to a suitable stand; and it also comprises a platform N, a tray L, an asbestos mat I, a screen S, and a powder holder D similar to the correspondingly lettered elements of Figs. 1 to 3. Said modification however differs from that shown in Figs. 1 to 3, in that the powder holder D is carried on one arm of an angular sub-frame A, pivoted at *a* on main frame B<sup>1</sup>, and in that the other arm of said sub-frame A is designed to be engaged and held by a lever J and to be impelled by a spring B connected to the main frame. One arm of the lever J is disposed above and adjacent a piston I, carried in a cylinder H, and the said cylinder is designed to be connected with an air bulb (not shown). Thus it will be manifest that when air is supplied to the cylinder H while the rear arm of the sub-frame or lever A is in engagement with the lever J, the lever J will be disengaged from the arm, whereupon the forward arm of lever A and the powder holder D will gravitate for the purpose before described, such movement being accelerated by the spring B acting against the rear arm of sub-frame or lever A.

While we have described both embodiments of our invention with particularity, it is obvious that in the future practice of the invention such changes or modifications may be made as fairly fall within the scope of our invention as defined in the claims appended.



Having described our invention, what we claim and desire to secure by Letters Patent, is:

1. In a device of the character set forth, the combination with a support, of powder igniting means carried thereby, a powder-holding device located above and being downwardly movable to discharge the powder on to the igniting means, and means detachably engaging the holding device to support the same in elevated position, said means when disengaged, permitting the holding device to drop and so discharge the powder.

2. In a device of the character set forth, the combination with a standard, of a platform carried thereby and having powder igniting means, a lever pivoted between its ends upon the standard above the platform, a powder holder mounted on one end of the lever and movable downwardly to discharge the powder onto the platform, a latch detachably engaging the other end of the lever to support the powder holder in elevated position, and means for operating the latch to release the lever.

3. A flash lamp comprising a main frame, a platform carried by and extending forwardly therefrom, a tray disposed on said platform and containing a mat and a screen arranged over the mat, a reflector supported by the platform and arranged in rear of the tray, a swinging sub-frame or lever pivoted to the main frame in a horizontal plane above that of the tray, a powder holder carried by said sub-frame or lever, and means on the main frame for engaging the sub-frame or lever to maintain the powder-holder in a horizontal position and for releasing the sub-frame or lever to permit the powder-holder to move downwardly.

4. The combination in a flash lamp, of a main frame, a sub-frame or lever pivoted thereto, a powder-holder on said sub-frame or lever, flame-affording means carried by the main frame and located below the pow-

der holder, a lever for engaging the sub-frame or lever and maintaining the powder-holder in a raised position, and means located below the flame-affording means for actuating said lever to release the sub-frame or lever.

5. The combination in a flash-lamp, of suitably-supported flame-affording means, a powder-holder movable downwardly toward and upwardly away from the flame-affording means, and means for maintaining the powder-holder in a raised position, said means being operative to release said holder and permit it to move downwardly.

6. The combination in a flash-lamp, of suitably-supported flame-affording means, a powder-holder movable toward and from the flame-affording means, a suitably-supported reflector located in rear of the flame-affording means, and means for maintaining the powder-holder in a raised position and for permitting said holder to move downwardly in front of the reflector at the proper time.

7. In a device of the character set forth, the combination with igniting means, of a reflector located in rear of the same, and a powder holder movable to a position between the reflector and igniting means to discharge powder onto the latter.

8. In a device of the character set forth, the combination with igniting means, of a reflector located in rear of the same, a swinging powder holding pan movable downwardly to a position between the reflector and igniting means to discharge the powder onto the latter, and a latch detachably engaging the pan to support the same in an elevated position.

In testimony whereof we affix our signatures in presence of two witnesses.

ROSS W. PHELPS.

WILLIAM LLOYD HARDING.

Witnesses:

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S. S. GARRETSON.