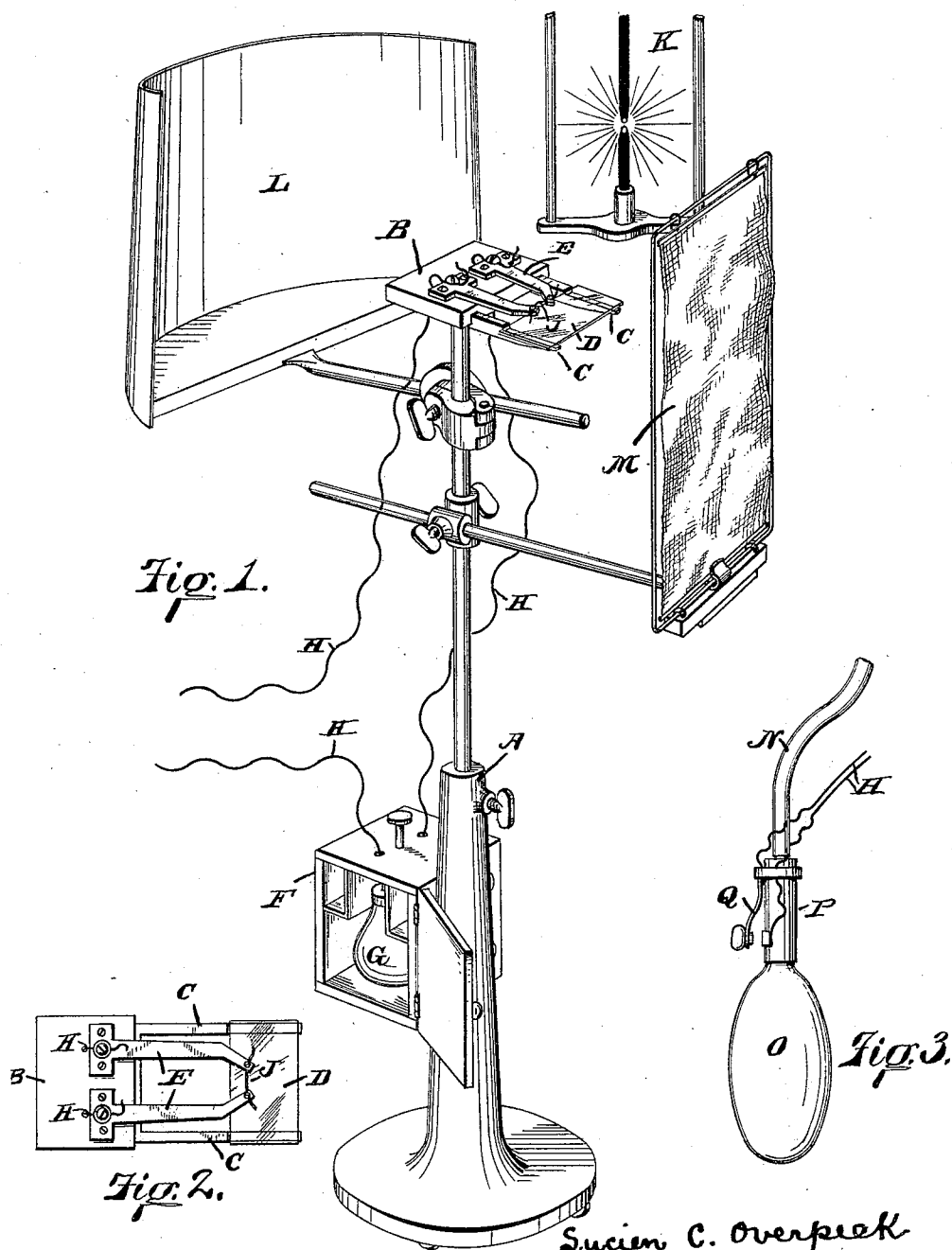


(No Model.)

L. C. OVERPECK.
PHOTOGRAPHIC LIGHT APPARATUS.

No. 406,299.

Patented July 2, 1889.



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LUCIEN C. OVERPECK, OF HAMILTON, OHIO.

PHOTOGRAPHIC-LIGHT APPARATUS.

SPECIFICATION forming part of Letters Patent No. 406,299, dated July 2, 1889.

Application filed February 18, 1888. Serial No. 264,485. (No model.)

To all whom it may concern:

Be it known that I, LUCIEN C. OVERPECK, of Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Photographic-Light Apparatus, of which the following is a specification.

This invention relates to apparatus for use in photographic lighting, and pertains particularly to peculiar adaptations of instantaneous flash-light. Such flash-light as ordinarily employed, and as I employ it, is formed by the burning of magnesium or other compounds susceptible of instantaneous burning and the production of a light of high actinic energy. While the extent of the light emanating from the burning magnesium is considerably less than that of the sunlight, its actinic energy is about equal to one-third of the power of the sun's rays. Consequently the light, though powerful, is soft, and there are no harsh contrasts like those produced by photographs taken in direct sunlight. Direct shadows, so effective in a work of art, have hitherto been excluded from photography; but with the flash-light they contribute much to the beauty of the picture, giving relief, pleasing contrasts, and a degree of naturalness which is delightful. The light is commonly used either direct or screened. From an artistic point of view preference is to be given the direct light. When subdued, the effect is more like daylight-work. Besides this, beautiful lines of high light along the nose, upon the cheeks, and upon the forehead of the sitter, which never appear in daylight photographs, are entirely lost.

My apparatus has been devised for the exercise of a system of lighting by an instantaneous flash-light, in conjunction with other light, in such manner as to shorten the exposure, improve the effect, and enhance the facility for manipulation.

My invention will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of a flash-light apparatus, illustrating my improvement; Fig. 2, a plan of the flash-light support and igniter; and Fig. 3, an elevation of the usual pneumatic bulb for operating the camera-

shutter, shown as combined with the circuit-key, which serves in igniting the flash-light.

In the drawings, A indicates a form of portable adjustable standard for supporting the flash-light apparatus; B, the crown-piece thereto; C, a pair of shelf-supports projecting horizontally therefrom; D, an exposed shelf of transparent material, as glass or mica, resting loosely and removably upon these shelf-supports and adapted for the support of the flash-light material, whether the same be in the form of a powder or cotton, or both, or otherwise; E, a pair of rigid electrical conductors secured to the crown-piece and projecting therefrom over the shelf D, a short distance above the shelf, these conductors being insulated from each other where they attach to the crown-piece, and terminating over the shelf in contiguous fingers provided with binding-posts; F, a receptacle secured to the standard and adapted to contain an electrical battery and also a reasonable supply of flash-light material; G, an electric battery neatly disposed within this receptacle; H, flexible electrical conductors forming a circuit, including a battery, a circuit-closer, and the conductors E; J, a short piece of fine wire of refractory material uniting the fingers of the conductors E and secured thereto upon binding-posts thereof; K, an artificial light, typified by an electric-arc lamp, disposed contiguous to the shelf, so that the light emanating therefrom will fall upon an object in substantially the same direction as will light flashed upon the shelf; L, a reflector to the rear of the shelf; M, a screen to the front of the shelf; N, the usual flexible tube to connect with the shutter mechanism of the camera and serve in operating the same pneumatically; O, the usual bulb at the hand end of said tube; P, the ferrule of the bulb, and Q a spring circuit-key normally open and attached to the ferrule and included in the circuit of the conductors H.

The standard is to be so adjusted that the shelf will represent the point from which the flash-light is to fall. The flash-light material is to be placed upon the shelf. The sitter is then posed and the camera prepared and the shutter opened and the exposure made, and during this exposure the electrical circuit is

to be closed. The closure of the circuit causes the current to raise the high-resistance J to incandescence and ignite the flash-light material. By reason of the transparency of the shelf D the flash-light will become transmitted in downward directions as well as otherwise. The closure of the circuit can be effected by any circuit-closing key easily manipulated; but by preference the improved device shown in Fig. 3 is to be employed. By means of this device, operating in an obvious manner, the operator may press the bulb to make the exposure, and then at the proper interval close the circuit-key by means of his thumb. The action of the reflector L and screen M is as usual, so far as the flash-light is concerned, and they may be adjusted and treated accordingly. If the wire J becomes burned out, a new one can be readily replaced in the binding-posts.

For night work a continuous artificial actinic light is preferable to be employed in conjunction with the flash-light. An electric-arc lamp is to be recommended for this purpose, and it should be located with reference to the flash-light so that both will represent substantially common points of light, and the screen M of the flash-light apparatus may serve as the screen for the electric light, or it may be adjusted to serve alternatively for either of the lights. In using the combined light the posing is done as usual, the exposure made by the artificial continuous light, and during that exposure the flash-light is ignited. By means of this system one may secure the best effect of the continuous actinic light coupled with the exposure-shortening merit of the flash-light.

I claim as my invention—

1. In photographic-light apparatus, the combination, substantially as set forth, of a supporting-shelf adapted to receive flash-light material, a pair of conducting-fingers disposed thereat, a fine conducting-wire connecting these fingers, a generator of electricity, a circuit-closing key, and electrical conductors connecting said fingers and generator and key.

2. In photographic-light apparatus, the combination, substantially as set forth, of a pair of shelf-supports, a shelf of transparent material resting removably thereon adapted to receive a charge of flash-light material, and means for igniting said material.

3. In photographic-light apparatus, the combination, substantially as set forth, of a continuous actinic light, as an electric-arc lamp, an exposed shelf disposed contiguous thereto and adapted to receive a charge of flash-light material, and means for igniting said charge.

4. In photographic-light apparatus, the combination, substantially as set forth, of a standard, a crown-piece, shelf-supports attached thereto, conducting-fingers E, rigidly attached to the crown-piece, wire J, connecting with the fingers, and an electric battery, said battery and fingers being adapted for connection into a circuit with a circuit-closer.

5. In photographic-light apparatus, the combination of a tube adapted for connection with the pneumatic-shutter mechanism of a camera, a hand-bulb at the free end thereof for producing a compression of the air, an electric-circuit-closing key secured at said bulb, and electrical conductors connecting with said key.

6. In photographic-light apparatus, the combination, substantially as set forth, of a continuous artificial actinic light, as an electric-arc lamp, an exposed support for flash-light material disposed contiguous thereto, and an adjustable screen common to both said lights.

7. In photographic-light apparatus, the combination, substantially as set forth, of adjustable standard A, an adjustable reflector and a screen supported thereby, shelf-supports attached to the standard, fingers E at said shelf, wire J, connected with the fingers, battery G, and conductors H.

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