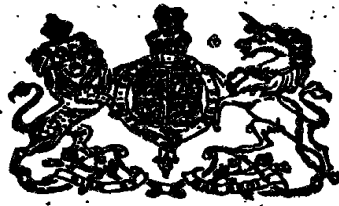


N<sup>o</sup> 8487



A.D. 1903

Date of Application, 14th Apr., 1903—Accepted, 4th June, 1903

COMPLETE SPECIFICATION.

Improvements in Flash Lamps.

We, FREDERICK GEORGE WALTER and JOHN WALTER, Senior, both of Almond, County of Portage and State of Wisconsin, United States of America, Artist and Gentleman, respectively, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:

This invention is an improvement in flash lamps, especially adapted for use in photography, and the objects of the invention are to provide for quickly and effectively igniting the flash powder for spreading the flame so as to give an intense flash light for instantaneous photography, or for other purposes, and also to provide means for preventing premature explosion or accidental ignition of the flash powder.

In the drawings;

Figure 1 is a side elevation;

Figure 2 is a plan view;

Figure 3 is a longitudinal sectional view and

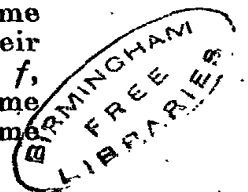
Figure 4 is a transverse sectional view.

A, designates a supporting frame or board, upon which are mounted the pan for the flash powder and the devices for igniting the latter, and centrally the said supporting frame or board is provided with means for attaching the same to the tripod for supporting it at the proper height. Said means of attachment consists of plates *b*, *b*<sup>1</sup> secured to the upper and lower sides of the board by a bolt *b*<sup>2</sup>, the latter being adapted to pass loosely through the head of the tripod, lower plate and board and engage a threaded opening in the upper plate so as to clamp the parts together.

In the forward part of the supporting frame A, is a vertical opening *a* adapted to receive a removable oil lamp C, which is supported in the opening by lugs *c*, *c*, projecting therefrom into an annular recess *a*<sup>1</sup> in the side wall of the opening. Vertical recesses *a*<sup>2</sup> corresponding in number and location with the lugs *c*, extend downward from the annular recess, and when said lugs are brought to register with said vertical recesses, the oil lamp may be removed from the lower part of the opening *a*, and to provide for turning the lamp readily, ribs *c*<sup>1</sup>, are provided on the underside of same. The oil lamp is of simple construction, comprising a bowl, from the center of which projects a wick-tube, and to one side of the wick-tube is a filling-tube covered by a removable cap *c*<sup>3</sup>.

The pan for the flash powder consists of a board D, secured to the forward end of the supporting frame A, and upon this board is attached a metal plate *d*, upon which the flash powder is placed. At the inner end of the board is a wall *d*<sup>1</sup>, having an opening *d*<sup>2</sup>, through which the igniter passes to the powder. The said opening is covered by a plate E, pivoted to plate *d*<sup>1</sup>, and operated by a rod *e*, its movement being limited by stops *e*<sup>1</sup>. Upon the pan are mounted flame spreaders F, consisting of funnel-shaped boxes disposed on a line with their smaller ends adjoining each other, the said adjoining ends having openings *f*, while the said walls *f*<sup>1</sup>, *f*<sup>2</sup> are extended upwards, as shown. These flame spreaders are mounted on rods *f*<sup>3</sup>, which extend through the supporting frame

[Price 8d.]



*F. G. and J. Walter's Improvements in Flash Lamps.*

or board A and are threaded at their lower ends to receive thumb nuts by which the flame spreaders are clamped in an adjustable position.

G, désignates a horizontally disposed tube or cylinder mounted upon the upper end of the rod H, passed vertically through the supporting frame and adjustably secured thereto by set nuts *h*, *h*<sup>1</sup>. In the cylinder G is mounted a piston *i*, 5 carrying a rod *i*<sup>1</sup>, which latter projects through the forward end of the tube and carries at its outer end a head *j*, an in incandescing material, preferably copper, to provide the igniter.

Encircling the rod *i* within the tube is a helical spring forming a buffer which causes the rebound of the rod after it is projected to its fullest extent. 10 The tube and rod are so disposed with relation to the wick that the head of the igniter will be normally over the latter so as to be heated by the flame; and the piston is operated by a bulb O and connecting tube *o*, and in practice, the said bulb is also connected to a tube leading to the camera shutter, as indicated by *o*<sup>1</sup>.

By providing a vertical adjustment for the horizontal tube, the igniter may 15 be caused to operate at any distance above the surface of the pan.

The construction and operation of my improved flash lamp will be readily understood, for supposing a supply of flash powder to be upon the pan, in and 20 between the flame spreaders, the hole *d*<sup>2</sup> to be open and the igniter heated to the required extent, pressure upon the bulb will force the piston rod forward and the igniter passing through the hole in the wall *d*<sup>1</sup> and into the powder will explode the matter and produce an intense light, the intensity of the light being augmented by the flame spreaders, which produce a wide or flat flame:

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what 25 I claim is:

1. In combination with a flash pan, a lamp, a rod having a head of incandescing material and means for operating the latter.
2. In a flash lamp, means for operating the rod carrying the incandescing material comprising an adjustable tube, a piston, a bulb and connection between 30 the latter and tube.

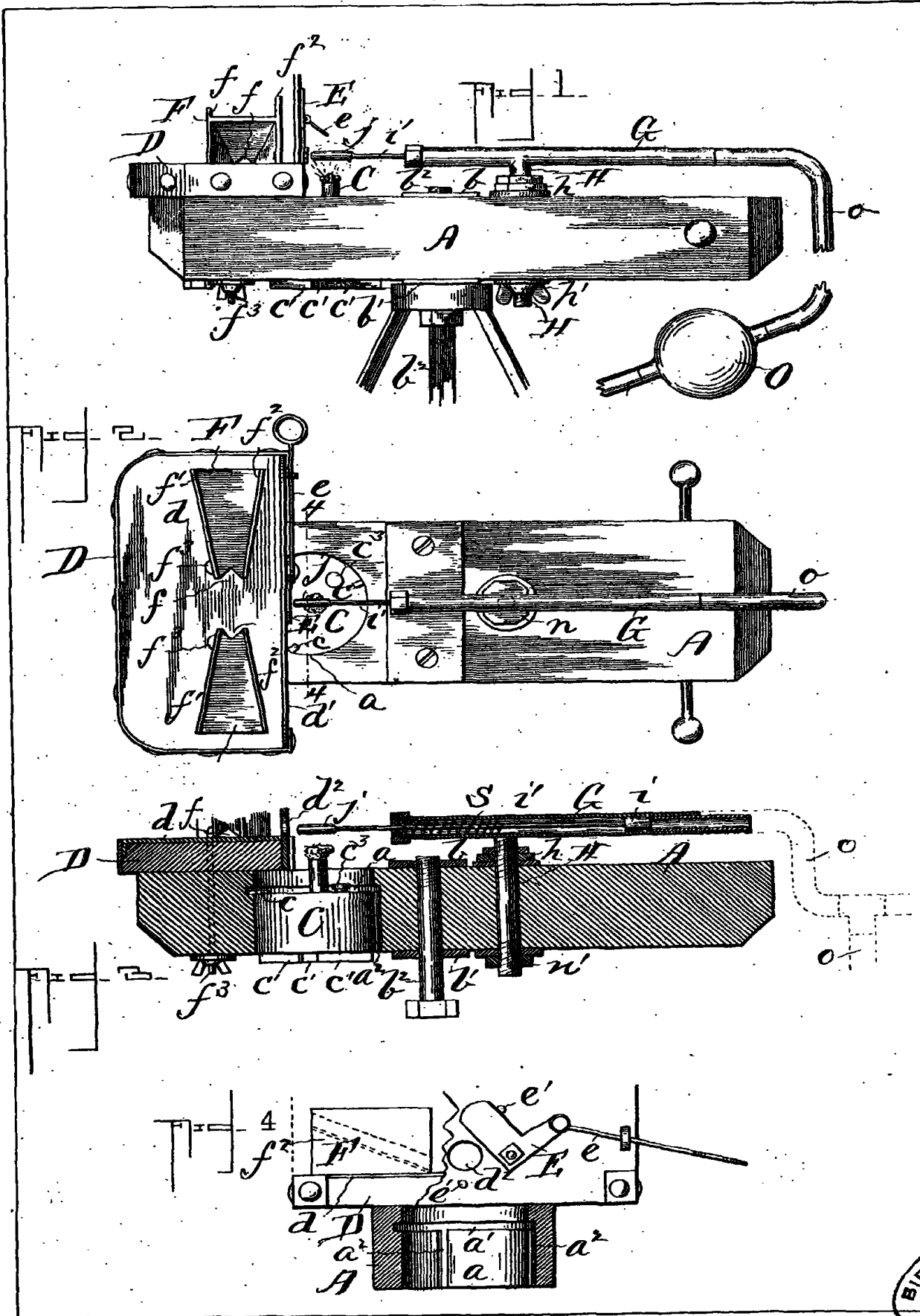
Dated this 14th day of April 1903.

BOULT, WADE & KILBURN,  
Agents for the Applicant.

A.D. 1903, APRIL 14, N<sup>o</sup>. 8487.

WALTER & another's COMPLETE SPECIFICATION.

(1 SHEET)



[This Drawing is a reproduction of the Original on a reduced scale.]

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