

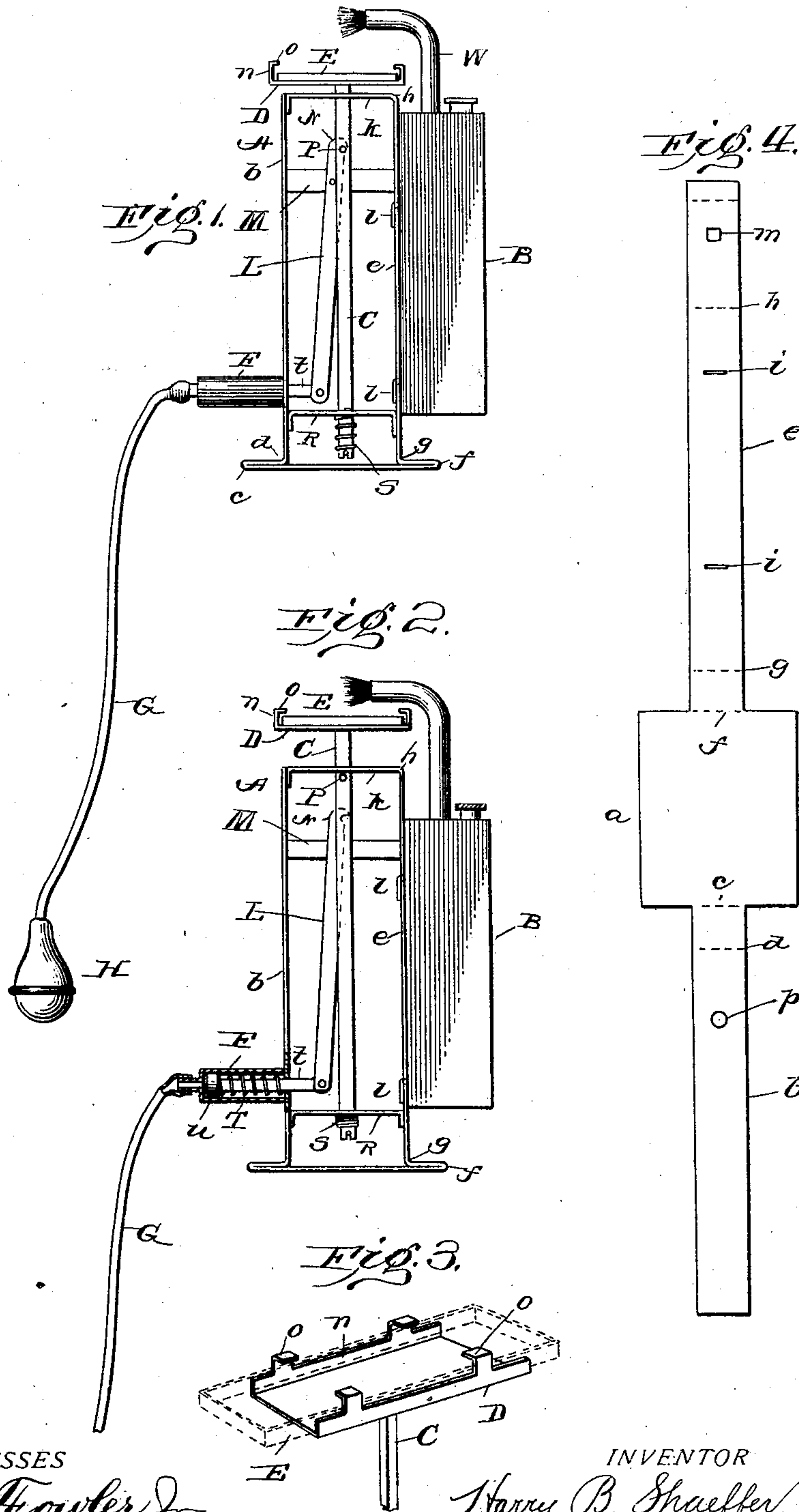
No. 672,963.

Patented Apr. 30, 1901.

H. B. SHAEFFER.  
FLASH LIGHT LAMP.

(Application filed July 14, 1900.)

(No Model.)



WITNESSES  
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# UNITED STATES PATENT OFFICE.

HARRY B. SHAEFFER, OF ALTOONA, PENNSYLVANIA.

## FLASH-LIGHT LAMP.

**SPECIFICATION** forming part of Letters Patent No. 672,963, dated April 30, 1901.

Application filed July 14, 1900. Serial No. 23,597. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY B. SHAEFFER, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Flash-Light Lamps; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to flash-lamps for the use of photographers and for other purposes; and it has for its object to provide a simple, durable, and comparatively inexpensive lamp of few parts, the lamp proper of which will not require to be replenished at frequent intervals, as are the lamps now in common use; and it consists of the parts and combinations of parts hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of my improved flash-lamp with one wall of the casing for the plate-operating mechanism removed and showing the plate in its lower position. Fig. 2 is a similar view showing the trigger released and the cylinder for the trigger-operating device in section; Fig. 3, a detail perspective view of the plate or pan or tray carrier; and Fig. 4, a diagrammatic view of the blank from which the top, bottom, and two sides of the casing are formed.

Similar letters refer to similar parts throughout all the views.

Referring to the drawings, A represents the casing for the mechanism which operates the tray-carrier. This casing consists of a box, preferably square, two sides, the top, and the bottom of which are formed from the blank shown in Fig. 4, which consists of a strip of sheet metal of uniform width throughout its length, excepting at one point, where it is widened or extended out at each side, as at *a*, to form the flanged bottom of the casing. In forming the casing one end of the strip, as *b*, is bent over on the line *c* and then bent upwardly on the line *d* to a vertical position, as shown in Figs. 1 and 2, to form one side or wall *b* of the casing, and the other end of the strip is similarly bent on the lines *f* and *g* and then bent at right angles along the line *h* and secured to the end of the strip *b* to form

one side *e* and the top *k* of the casing. The flanges formed in making the first bends serve to give a wide base to the casing. The other two sides of the casing may be secured in place in any desired manner; but I prefer that one of them be removable, so as to permit of easy access to the interior of the casing when desired. Elongated openings or slots *i* are formed in the wall *e* to receive catches *l*, formed on the side of the lamp B to hold the same in place, and a square opening *m* is formed in the top *k* for the passage of the rod C, to the top of which is secured the plate D, having its side edges bent up, as at *n*, and right-angled lugs O formed thereon in order to guide the powder tray or pan E thereon and to prevent the same being thrown off when the plate D is released or sprung upward, as will be described. A round opening or perforation *p* is formed in the wall *b*, through which the rod *t* of the piston *u* projects.

F represents a cylinder, in which the piston *u* works, having a nozzle whereby a tube G may be attached in order to operate the piston by means of air from the pneumatic bulb H. The inner end of the rod *t* is pivoted to the lower end of a lever or trigger L, which is pivoted near its upper end to a cross-rod M within the casing, and the upper end of said lever L is formed with a notch or hook N to engage a pin P, projecting from the rod C. The lower end of rod C passes through an opening in a cross-bar R, and a spiral spring S surrounds the same, one end of said spring being secured to the rod and the other end to the cross-bar R, so that the tension of the spring serves to hold the rod and plate in their upper position. A spiral spring T surrounds the piston-rod within the cylinder and bears at one end against the piston and at the other against the wall of the casing, and thereby normally holds the piston-rod within the cylinder. The pressure of the bulb forces the air against the piston and moves the same inwardly against the pressure of the spring T and swings the trigger or lever L on its pivot, so as to release it from the pin on rod C and permit the spring S to throw the rod up, and thus bring the powder on the tray or pan E to the flame from the wick of the lamp. The spring T immediately returns the piston to the outer end of the cylinder upon the bulb



being released, and by pressing the plate D down the hook on the trigger again engages the pin P and holds the plate down until it is released by pressure on the bulb.

5 The lamp B is provided with a tube W for a wick, and a screw-cap covers the opening through which the fluid is fed to the lamp. As shown, the tube W is bent so as to extend over the plate D, so that the charge of powder on the tray or pan E may be ignited in-  
10 stantly when the trigger is released and the plate on which the pan rests is thrown up. The sudden check given the plate in its upward movement also serves to throw the pan  
15 upward against the lugs o, and thereby the powder is thrown into the flame from the wick in a somewhat loose condition, which insures a thorough combustion thereof and an increased area of light.

20 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a flash-lamp, of a casing, a lamp supported by said casing, a  
25 vertical plate-carrying rod extending into said casing, a spring for imparting sudden vertical movement to said rod, a trigger engaging said rod, means for vibrating said trigger, and a pan or tray adapted to fit on said plate.

30 2. The combination, in a flash-light lamp, of a casing, a lamp supported by said casing, a plate-carrying rod extending into said casing, means for operating said rod vertically, a trigger engaging said rod, a piston, a rod

rigidly connected to said piston and pivotally 35 connected to said trigger, means for operating said piston, and a pan or tray adapted to fit on said plate.

3. The combination, in a flash-light lamp, of a casing, a lamp removably supported on 40 said casing, a rod entering said casing, a plate having upturned side edges and right-angled lugs secured to said rod, a pan or tray adapted to fit under said lugs, and means for imparting sudden vertical motion to said rod. 45

4. The combination, in a flash-light lamp, of a casing, a lamp supported on said casing, a rod entering said casing, a plate secured to 50 said rod, a pan or tray adapted to fit on said plate, means for preventing said tray from being thrown off said plate, and means for imparting sudden vertical motion to said rod.

5. The combination, in a flash-light lamp, of a casing, a lamp contiguous to said casing, a rod entering said casing, a plate secured to 55 said rod, a spring for imparting movement to said rod, a trigger engaging said rod, a piston arranged in a cylinder and pivotally connected to said trigger, a spring for moving said piston in one direction and a tube and pneu- 60 matic bulb for forcing air against said piston to move it in the opposite direction.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY B. SHAEFFER.

Witnesses:

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