

(No Model.)

B. SMITH.
FLASH LAMP.

No. 505,780.

Patented Sept. 26, 1893.

Fig. 1.

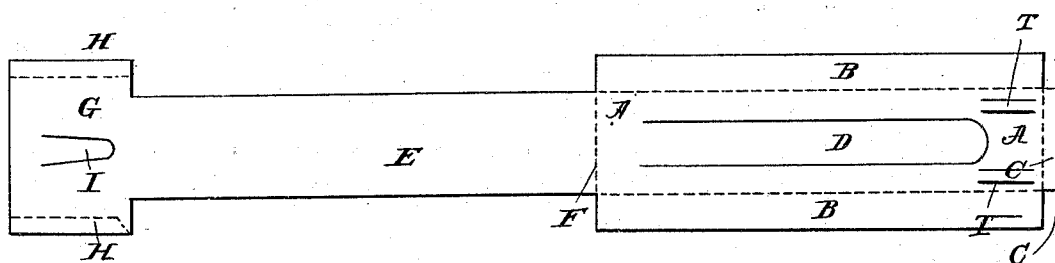


Fig. 2.

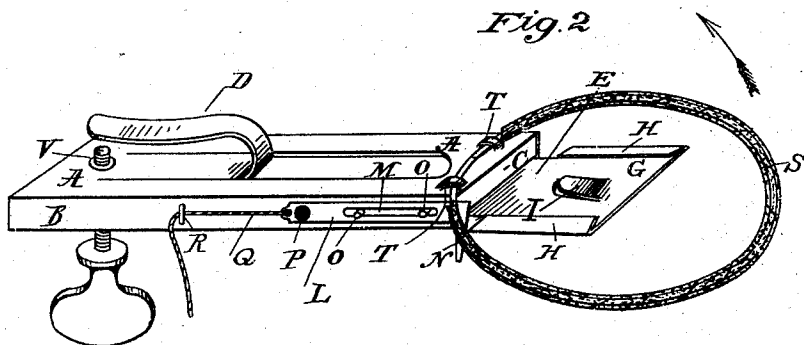
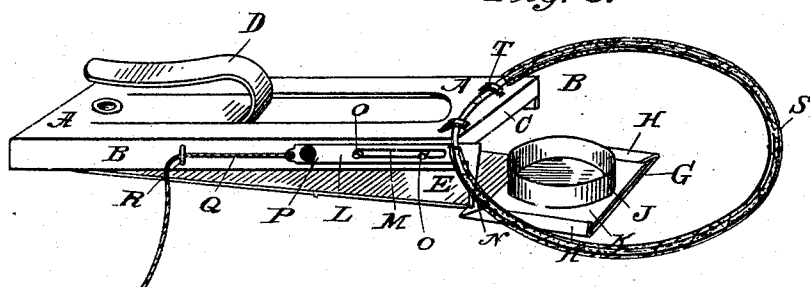


Fig. 3.



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FLASH-LAMP.

SPECIFICATION forming part of Letters Patent No. 505,780, dated September 26, 1893.

Application filed June 27, 1893. Serial No. 478,961. (No model.)

To all whom it may concern:

Be it known that I, BURGESS SMITH, a citizen of the United States, and a resident of Macon, in the county of Bibb and State of Georgia, have invented a certain new and useful Flash-Lamp, of which the following is a specification.

My invention relates to a new and improved flash lamp for photographic purposes.

The essential features of the invention are its simplicity, its compactness, its cheapness, its efficacy, and the fact that it may be loaded while the alcohol is burning.

In the drawings hereof: Figure 1, illustrates a plan view of a sheet of metal from which I construct the major portion of the device. Fig. 2, is a perspective showing the device as completed, with the exception that the box which holds the magnesium or other inflammable powder is not upon the machine. Fig. 3, illustrates the device complete and duly "set" for making a flash.

A is a piece of metal preferably spring brass. Other metal however may be employed.

B, B are two flanges, which are bent at right angles to the part marked A, so as to form two side pieces to stiffen the structure.

C is an end piece or flange, which is bent in substantially the same manner that the parts B, B are, and in the constructed machine it makes a ledge against which the spring which throws the magnesium strikes when released by the trigger.

D is a tongue-like part, which is cut out from the face of the piece A, and is bent in the form shown in Figs. 2 and 3, so as to make a clip or spring clamping device whereby the lamp can be fastened to the edge of a mantel-piece or table or other suitable ledge.

E is a portion of the piece of metal A, which is bent underneath and backwardly relative to the part A on the dotted line F.

G is an enlarged end portion of the part E, which has side pieces or flanges H, H, which are turned over upon the part G, as best shown in Fig. 2, so as to form clamping ways to hold the box which contains the magnesium powder.

I is a spring tongue cut from the part G, which presses against the under side of the box which holds the magnesium powder, whereby it is held firmly in place. This box is shown at J, Fig. 3. It is soldered or otherwise fastened to a plate K, which slides underneath the flanges H, H.

L is a trigger which is slotted as at M and has a rectangular forward end N. It is fastened to one of the side pieces B of the frame by headed pins O, O, which play through the slot, so that the trigger has longitudinal movement. It is also provided with a thumb button P, so that it may be projected forwardly, and a cord Q, which passes through an eye R, which serves to pull it rearwardly to release the spring which supports the magnesium box.

S is a ring of wire, which passes through and is supported by two eye or like parts, T, T, which are punched out from the part A, so that the ring can be turned within these eyes. The arc of the ring between the eyes, is, of course, flattened to permit of its being turned upwardly as indicated by the arrow. The ring S is wrapped about with any suitable cloth-like material adapted to be saturated with alcohol or equivalent inflammable substance. The ring may be composed of a wire gauze structure the interior of which is filled with absorbent material.

The operation is as follows: The ring S is saturated with the inflammable liquid. The little box J, which contains the magnesium or other inflammable powder is slipped from under its confining flanges H, H, and is filled with magnesium powder. It is then replaced and the spring E depressed by hand into the position shown in Fig. 3, and the trigger L is pushed forwardly until the end of the rectangular part N engages with the upper surface of the platform upon which the box rests. Then the alcohol is lighted and burns in ring form entirely around the ring S. When desiring to make the exposure, the cord Q is pulled which withdraws the trigger, the spring E then immediately exerts its power and claps itself up against the flange C—in other words, moving from the position shown in Fig.

3, to that shown in Fig. 2. The sudden stopping of the spring projects the magnesium powder in the box upwardly and through the ring of flame. It of course instantly flashes and makes a very superior light.

My device, as before stated may be attached to the top of a table, mantelpiece or other structure, in which event, I find it convenient to employ a thumb-screw U, shown in Fig. 2, which passes upwardly through a threaded opening V, which has preferably a bushing threaded on its interior, and which passes through the spring E and the top plate A of the device. This gives strength also to the spring. I do not show this thumb screw in Fig. 3, because I make the threads in the bushing V of such size as that they may engage with a suitably threaded stem on a tripod when desired. In this way the flash lamp can be attached to a tripod, the thumbscrew U being temporarily removed. Although I prefer not to light the alcohol until the magnesium powder is in place and the spring set, nevertheless it is possible, and frequently very convenient to load the device and use it without blowing out the alcohol; in so doing the ring is turned upwardly in the direction of the arrow (see Fig. 2) so as to remove the flame as far as possible from the powder, and after the device is all arranged and the spring set, then the ring S may be carefully turned down into position, without danger of igniting the powder.

It will be evident to those who are familiar with this art, that modifications may be made in the details of construction of the device, and still the essential features of my inven-

tion be employed. I do not therefore limit myself to the details.

I claim—

1. The combination in a flash lamp of a spring, a receptacle for the powder supported on a spring, a trigger to maintain the spring under tension, and a lamp, substantially as set forth.

2. The combination in a flash lamp of a spring, a receptacle for powder, supported upon the spring, a trigger to hold the spring under tension, a ring placed adjacent to the spring, adapted to be used as a lamp, the parts being arranged in such manner that the powder is thrown by the spring through the ring, substantially as set forth.

3. The combination in a flash lamp of a spring, a receptacle for the powder, supported upon the spring, a trigger to hold the spring under tension, a pivoted or hinged ring placed adjacent to the spring, adapted to be used as a lamp, and to be swung away from the magnesium powder, substantially as set forth.

4. The combination in a flash lamp, of a frame having a clip or clamping device on one side, a spring on the other side and a ring-shaped lamp at or near one end, the free end of the spring being practically coincident with the center of the ring, substantially as set forth.

Signed at Macon, in the county of Bibb and State of Georgia, this 20th day of June, A. D. 1893.

BURGESS SMITH.

Witnesses:

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BRIDGES SMITH.