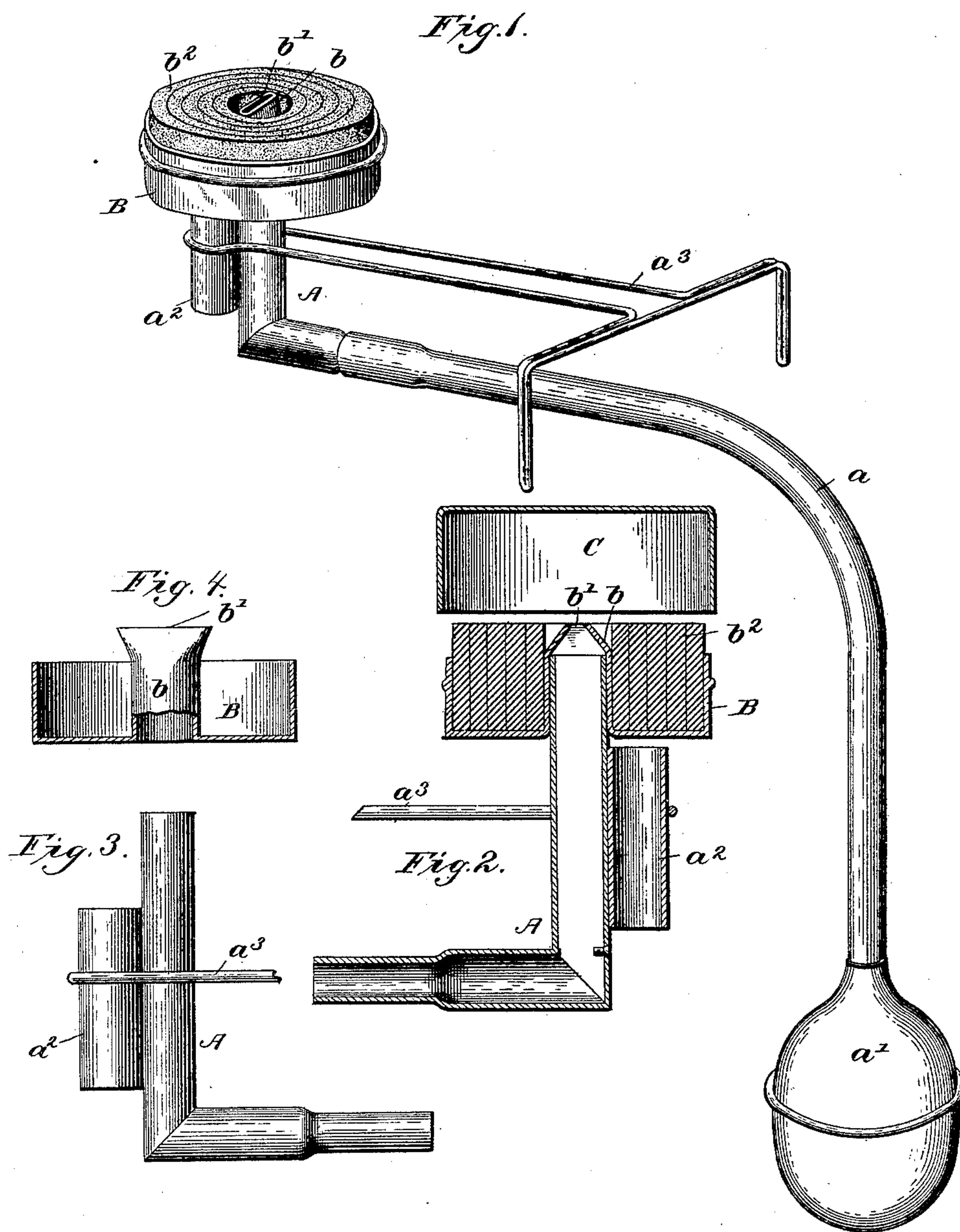


(No Model.)

E. M. PINE.
FLASH LIGHT FOR PHOTOGRAPHY.

No. 462,507.

Patented Nov. 3, 1891.



WITNESSES
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UNITED STATES PATENT OFFICE.

EDWARD M. PINE, OF WASHINGTON, DISTRICT OF COLUMBIA.

FLASH-LIGHT FOR PHOTOGRAPHY.

SPECIFICATION forming part of Letters Patent No. 462,507, dated November 3, 1891.

Application filed February 19, 1891. Serial No. 382,087. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. PINE, a citizen of the United States, residing in the city of Washington, District of Columbia, have invented certain Improvements in Flash-Lights for Photography; and I do hereby declare that the following is 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.

My invention relates to flash-lights for photography; and it consists in improvements and combinations hereinafter fully set forth.

The invention is intended to produce a flash of light of great temporary power or luminosity for photographic purposes.

In the use of magnesium powder usually employed for the purpose of producing a flash-light it has hitherto been deemed essential to mix with it an oxidizing material thereby making an explosive mixture which upon explosion operates to disseminate the magnesium powder, and thus secure the desired temporary luminosity.

My invention is designed to obtain a luminous flash without the danger and inconvenience of an explosion and in the most convenient and economical manner simply by the use of magnesium powder unmixed with other material.

In the drawings forming a part of this specification, Figure 1 is a perspective of my improved apparatus assembled for use. Fig. 2 is a section through the same. Fig. 3 is a side elevation of the magazine with the primary igniting device or burner removed, and Fig. 4 is a section of the burner detached from the magazine.

A is the magazine or holder for the magnesium powder. It consists of an angular or bent tube, as shown, and has connected with one branch a hose or flexible tube a , communicating with means of producing a blast through the magazine, as a bulb a' . For convenience in supporting and adjusting the magazine, I attach a socket a^2 to the side thereof, and also for supporting a reflector I attach a clamp or holder a^3 , conveniently made of wire bent to the form shown. This wire-holder also serves in connection with the magazine as a base or pedestal for supporting the whole in an upright position.

B is a removable part, which for convenience I designate a "burner." It consists of

a cup-shaped part and a central tubular part b , the latter having a contracted mouth or orifice b' . A suitable wick b^2 is adjusted within the cup around the central part b , to be saturated with any suitable inflammable substance, as alcohol or other volatile hydrocarbon.

C is a cover or lid for extinguishing the flame and for inclosing the wick when not in use.

In operation the wick, saturated with combustible liquid, is ignited. A charge of magnesium powder being placed in the magazine-chamber, the bulb is compressed, and the powder, blown from its magazine or chamber through elongated contracted nozzle b' , scattered, and ignited by the annular flame from the wick, producing a highly-luminous flash.

It should be observed that the elongated narrow throat b' serves to bring the powder to a wide thin stream, so that its maximum effect is produced, and that the detachability of the burner part is important in order to afford the greatest facility for charging the magazine with powder.

Having now described my invention, what I claim is—

1. In a flash-light apparatus, the combination of a magazine or powder holder and a detachable burner or ignitor having a central passage provided with an elongated narrow throat, substantially as described.

2. In a flash-light apparatus, the combination of a powder-holder, a detachable burner or ignitor having a passage through a priming or igniting flame and means for blowing the powder from its receptacle through the flame, substantially as described.

3. In a flash-light apparatus, the combination of a detachable burner or ignitor provided with a central tubular part having a narrow elongated throat-passage for the flash-powder, a suitable powder-receptacle connected through the medium of said tubular part with said burner, and a blasting attachment for blowing the flash-powder through the priming-flame, substantially as described.

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

EDWARD M. PINE.

Witnesses:

A. F. RANDALL,
ENOCH MARIS.