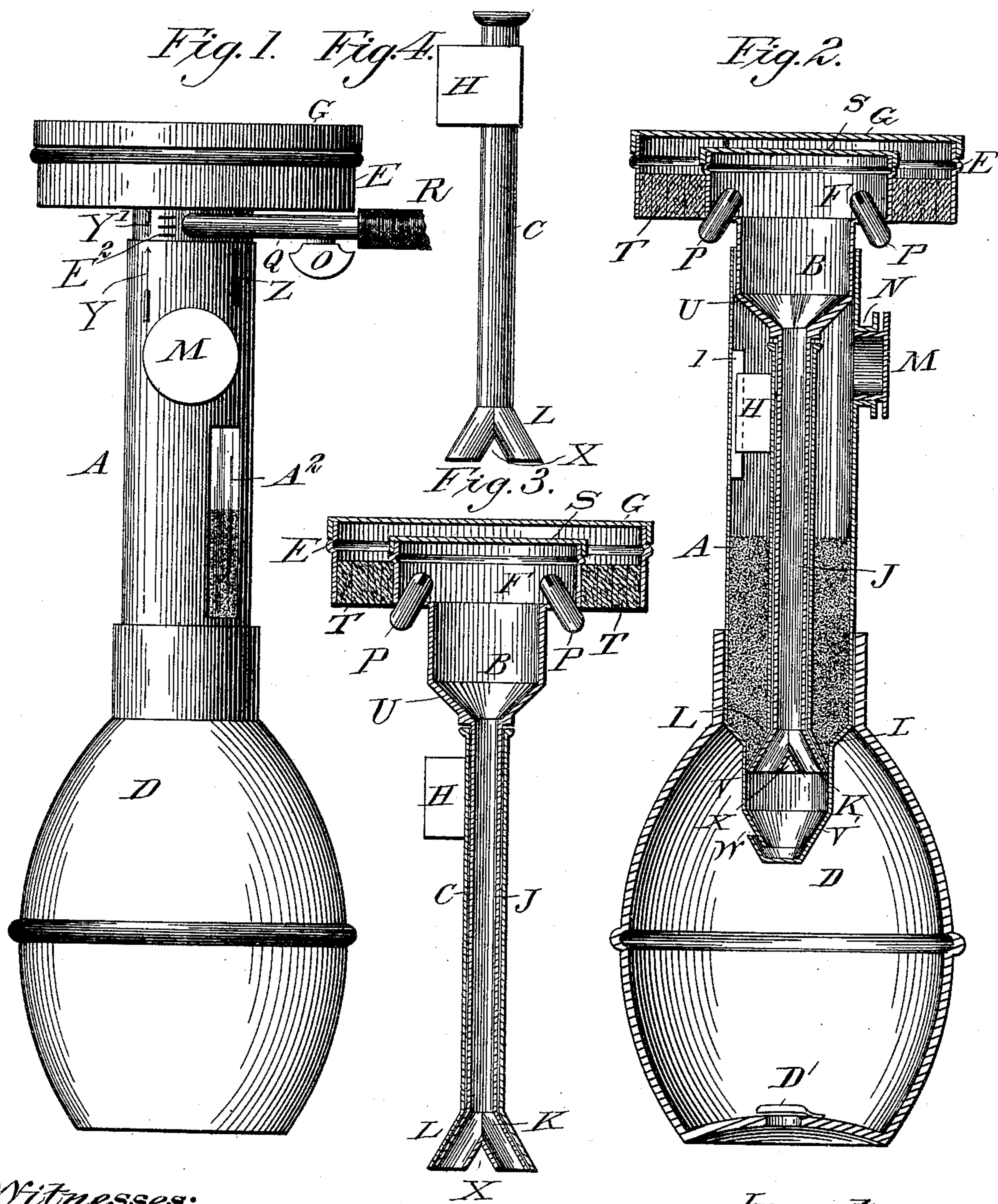


(No Model.)

D. H. HOUSTON.
SELF LOADING MAGNESIUM FLASH LAMP.

No. 446,918.

Patented Feb. 24, 1891.



Witnesses:

E. Geo. Luxhrie
V Landquist

Inventor:

D. H. Houston

UNITED STATES PATENT OFFICE.

DAVID H. HOUSTON, OF HUNTER, NORTH DAKOTA.

SELF-LOADING MAGNESIUM FLASH-LAMP.

SPECIFICATION forming part of Letters Patent No. 446,918, dated February 24, 1891.

Application filed April 21, 1890. Serial No. 348,914. (No model.)

To all whom it may concern:

Be it known that I, DAVID H. HOUSTON, a citizen of the United States, residing at Hunter, in the county of Cass and State of North Dakota, have invented a new and Improved Self-Loading Magnesium Flash-Lamp for Photographic Purposes, of which the following is a specification.

The object of my invention is to produce an effective and convenient self-loading lamp that will make a strong actinic light for photographic use.

Figure 1 is an exterior elevation of the entire lamp. Fig. 2 is a vertical section of the lamp. Fig. 3 is a vertical section of the lamp and interior parts when drawn out of the powder-magazine A. Fig. 4 is a vertical view of the stationary valve L, the stationary hollow tube C, and the arm H.

Similar letters refer to similar parts in the several views.

The wick T, having been saturated with alcohol or any other suitable fluid that will burn, will, when lighted, produce a conical flame above and cover the central air-pan F, which air-pan F should have apertures in the outer rim of its bottom to admit air for the better combustion of the flame from the wick T or the flame from the inclined gas-jets P P.

A quantity of magnesium-powder having been placed through the aperture N into the powder-magazine A, it is prevented from falling down into the powder-holding cylinder V by the closed valve K on the hollow valve-stem J. By turning the lamp until the point Y' comes to the point Z the valve K will be turned until the aperture X is opposite a similar aperture in the stationary part of the valve L, and by a shake of the lamp the powder from the magazine A will fall down to fill the cylinder V as high as the position of the valve K will admit, when a back turn of the lamp until the point Y' comes to the point Y will close the valve again. By a pressure of the hand on the collapsible bulb D the air from the interior of the bulb is forced through the air-passage W, causing the magnesium-powder from the powder-cylinder V to be blown upward through the hollow valve-stem J and in a dust-cloud into the flame from the wick T or the flame from the gas-jets P

P, at the option of the operator, and producing a very powerful actinic light for photographic purposes.

When saturating the wick with a fluid that will burn, the inside lid S of the air-pan F should be kept on to prevent any of the fluid from running down through the hollow tube J into the powder-cylinder V.

During the use of the lamp both the covers G and S should be taken off.

If the operator prefers to use gas, the same can be admitted to the lamp through the flexible tube R, and may be controlled or entirely cut off by the stop-cock O.

I claim—

1. In a magnesium flash-lamp for photographic purposes, the combination of the powder-magazine A, the cylinder V, and the revolving valve K.

2. In combination with a magnesium flash-lamp, the passage W, the cone-shaped powder-holder V', the cylinder V, the revolving valve K, and the hollow revolving valve-stem J.

3. With a magnesium-lamp, the combination of the stationary valve L, the revolving valve K, and the hollow revolving valve-stem J.

4. With a magnesium-lamp, the powder-magazine A, the rib I, the arm H, and the stationary hollow tube C.

5. With a magnesium-lamp, the combination of the cock M, the aperture N, the powder-magazine A, the cylinder V, and an air-passage W, having its inlet higher than its outlet.

6. With a magnesium-lamp, the combination of the powder-magazine A, the powder-holding cylinder V, a valve K, the cone-shaped powder-holder V', and an air-passage W.

7. In combination with a magnesium-lamp, the air-passage W, the cone-shaped powder-holder V', the powder-cylinder V, and a rubber bulb placed over the lower end of the powder-magazine A.

8. In combination with a magnesium-lamp, the wick-trough T, the air-pan F, with air-holes in the outer circle of the bottom of said air-pan, the cylinder B, the cone-bottom U, and the hollow tube J, passing down through the powder-magazine A and connecting with a piston-head K in the powder-cylinder V.

9. In combination with a magnesium-lamp, the outside cover G, the inside cover S, and the revolving cylinder B, said cylinder adapted to revolve from the point shown at Y to the point shown at Z.

10. In combination with a magnesium-lamp, the valve K, the hollow valve-stem J, and the cylinder B, adjusted to slide up and down in the top of the powder-magazine A.

11. In combination with a magnesium-lamp, the powder-magazine A and the window A², fitted with a transparent covering.

12. In combination with a magnesium-lamp, the rubber bulb D, the powder-magazine A, and two index-points Y and Z.

13. In combination with a magnesium-lamp, a powder-magazine having an aperture in its outside covered with a transparent material.

DAVID H. HOUSTON.

Witnesses:

E. GEO. GUTHRIE,
H. C. BARBER.