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(30) Priority:

(54) **FLASH LAMP**

(54) **LAMPE A JET DE FLAMME**

TO ALL TO WHOM IT MAY CONCERN:

Be it known that I, Joseph M. Roche of the City of Saint John in the City and County of Saint John and Province of New Brunswick, Merchant, having invented certain new and useful improvements in Flash Lamps, do hereby declare that the following is a full, clear and exact description of the same. My invention relates to improvements in Flash Lamps in which magnesium powder is used in conjunction with spirits of alcohol flame, and the objects of my improvement are:-

- 1- To provide that the magnesium powder shall be blown up through the flame in such a manner as to secure the heating of all the powder used without waste.
- 2- To afford facilities for the proper adjustment of the amount of powder blown into the flame.
- 3- To provide a means of regulating the amount and duration of the flash light.
- 4- To provide a form of lamp which may be conveniently held by the operator so as to protect his hand from the heated ashes as they fall, and also to provide a stand by means of which the lamp may be rested at any elevation.
- 5- To provide the means by which a number of these lamps may be used together by means of connecting the rubber tubes leading to the different lamps with one Mouth-piece, thereby enabling the operator to increase the amount of light and at the same time afford facilities for placing lamps at different elevations and angles in respect to the object on which the light may be sought to be thrown.

I attain these objects by the mechanism illustrated

in the accompanying chart, in which Fig. 1 is a detailed view in perspective of the whole machine as it appears with the cap removed, Fig. 2 a vertical section of the machine, and Fig. 3 is a view in perspective of the cap. Similar letters refer to similar parts throughout the several views.

The lamp may be made of tin, nickel-plated so as to give it a finish, or of other convenient metal. The wick-holder (A) and the ash-pan (B) are permanently attached to a cylinder (C) which is connected by means of a screw thread (D) with the cylinder (E) to which is permanently attached the bottom or stand (F), the cylinder (E) with the bottom forming a receptacle for the magnesium powder. The cylinder (C) is flattened almost together at the top so as to leave a long narrow opening similar to that at the top of the wick passage in an ordinary oil lamp. This aperture is level with the top of the sides of the wick-holder so that when the cap is placed on top of the wick-holder it covers the aperture, preventing the escape of the magnesium powder. The wick is rolled or otherwise placed around this flattened part of the cylinder so as to fill the space in the wick-holder between the flattened part of the cylinder (C) and the outer wall of the wick-holder. Through the side of cylinder (E) a small metal tube is inserted which is curved where it enters the cylinder (E) so as to run down inside and close to the wall of the cylinder (E) to within a short distance of the bottom. By this means the magnesium powder may be gradually blown into the flame and the duration of the flash light regulated. To the part of this tube protruding from the side

of the cylinder (E) is attached a rubber tube (L)

To operate the lamp, remove cap (J) and saturate the wick with spirits of alcohol. Then having charged cylinder (E) with the quantity of magnesium powder requisite for the flash light desired, screw cylinder (C) into cylinder (E) then ignite the alcohol and by blowing through the rubber tube impel the magnesium powder through the aperture (K) into and through the flame which will be found to form into a wedge shape completely covering the aperture. By this means none of the magnesium powder is wasted or escapes without being heated in the flame. The pan (B) receives the hot ashes of the magnesium powder consumed and prevents them falling on the hand of the operator holding the lamp or on the table or other place on which the lamp is standing.

The lamp is so constructed that it may be placed in any position. The rubber tube may be of any length desired, and by connecting the tubes from several lamps with one mouth-piece any number of lamps may be operated together while the amount of light can be varied by the amount of magnesium powder used and the force with which it is impelled into the flame; it can be increased to any extent by the use of a number of lamps.

I am aware that prior to my invention flash lamps have been made with devices by means of which magnesium powder is blown into the flame. I therefore do not claim such a combination broadly, but what I do claim as my invention and desire to secure by letters patent is:

1. The metal tube inserted into the side of the vertical cylinder containing the magnesium powder for the purpose and in the manner set forth.
2. The combination in a flash lamp of a vertical cylinder

of the cylinder (E) is attached a rubber tube (L)

To operate the lamp, remove cap (J) and saturate the wick with spirits of alcohol. Then having charged cylinder (E) with the quantity of magnesium powder requisite for the flash light desired, screw cylinder (C) into cylinder (E) then ignite the alcohol and by blowing through the rubber tube impel the magnesium powder through the aperture (K) into and through the flame which will be found to form into a wedge shape completely covering the aperture. By this means none of the magnesium powder is wasted or escapes without being heated in the flame. The pan (B) receives the hot ashes of the magnesium powder consumed and prevents them falling on the hand of the operator holding the lamp or on the table or other place on which the lamp is standing.

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1. The metal tube inserted into the side of the vertical cylinder containing the magnesium powder for the purpose and in the manner set forth.
2. The combination in a flash lamp of a vertical cylinder

to which are attached a wickholder and ash pan connected by means of a screw thread with another vertical cylinder to which is attached the bottom or stand and a metal tube inserted into the side of the lower cylinder and connected with a rubber tube so that the operator can blow the magnesium powder through the flame for the purpose and in the manner set forth and described.

Saint John, N. B., March 31st, 1905.

Signed in presence of

C. D. Hanson
Florance E. Wallace

J. M. Roche

Improvements in Flash-Lamps

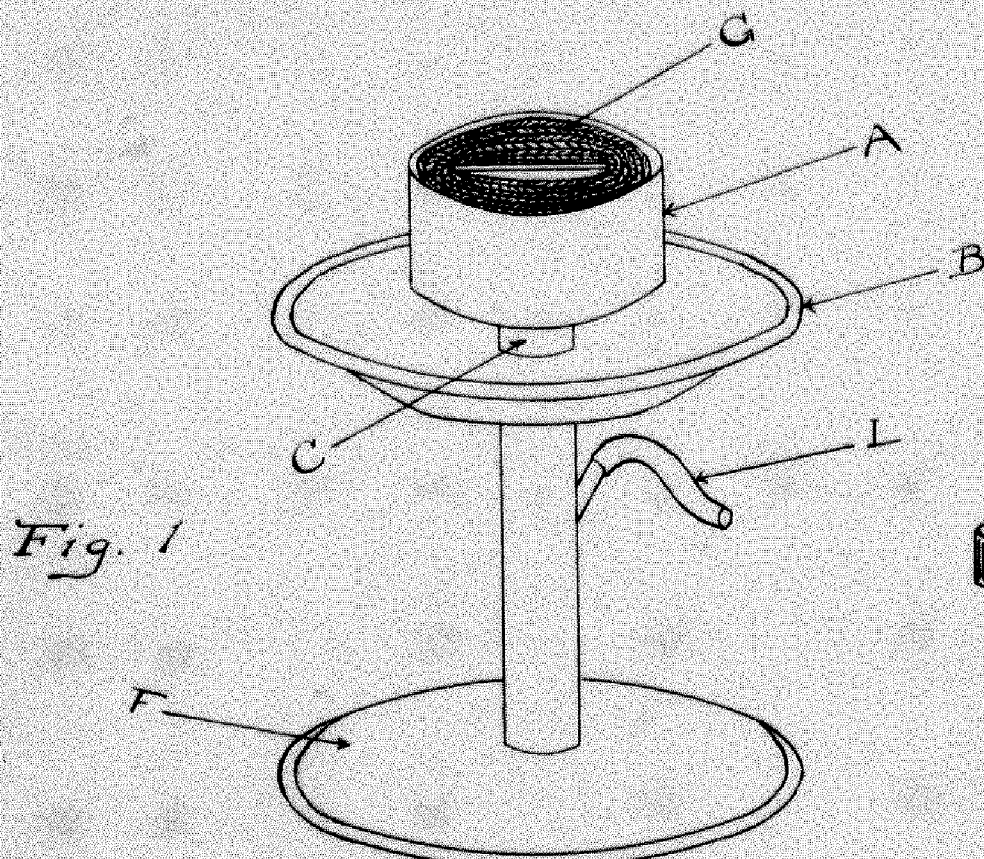


Fig. 1

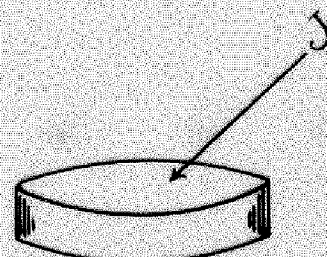


Fig. 3

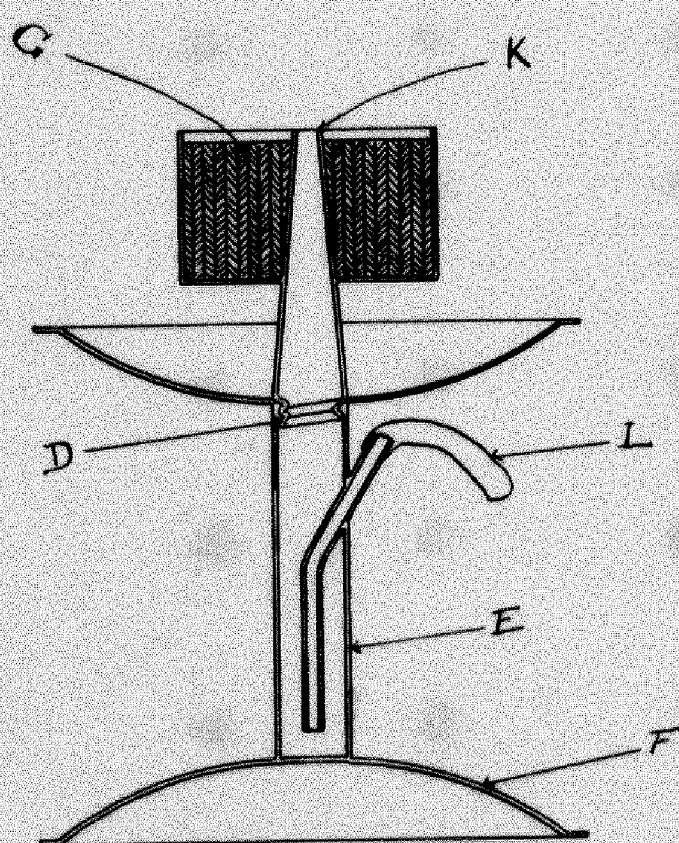


Fig. 2

Certified to be the Drawings referred to in the specification hereunto annexed
St. John, N.B. March 8, 1904
Witnesses
Inventor *Joseph M. [Signature]*