

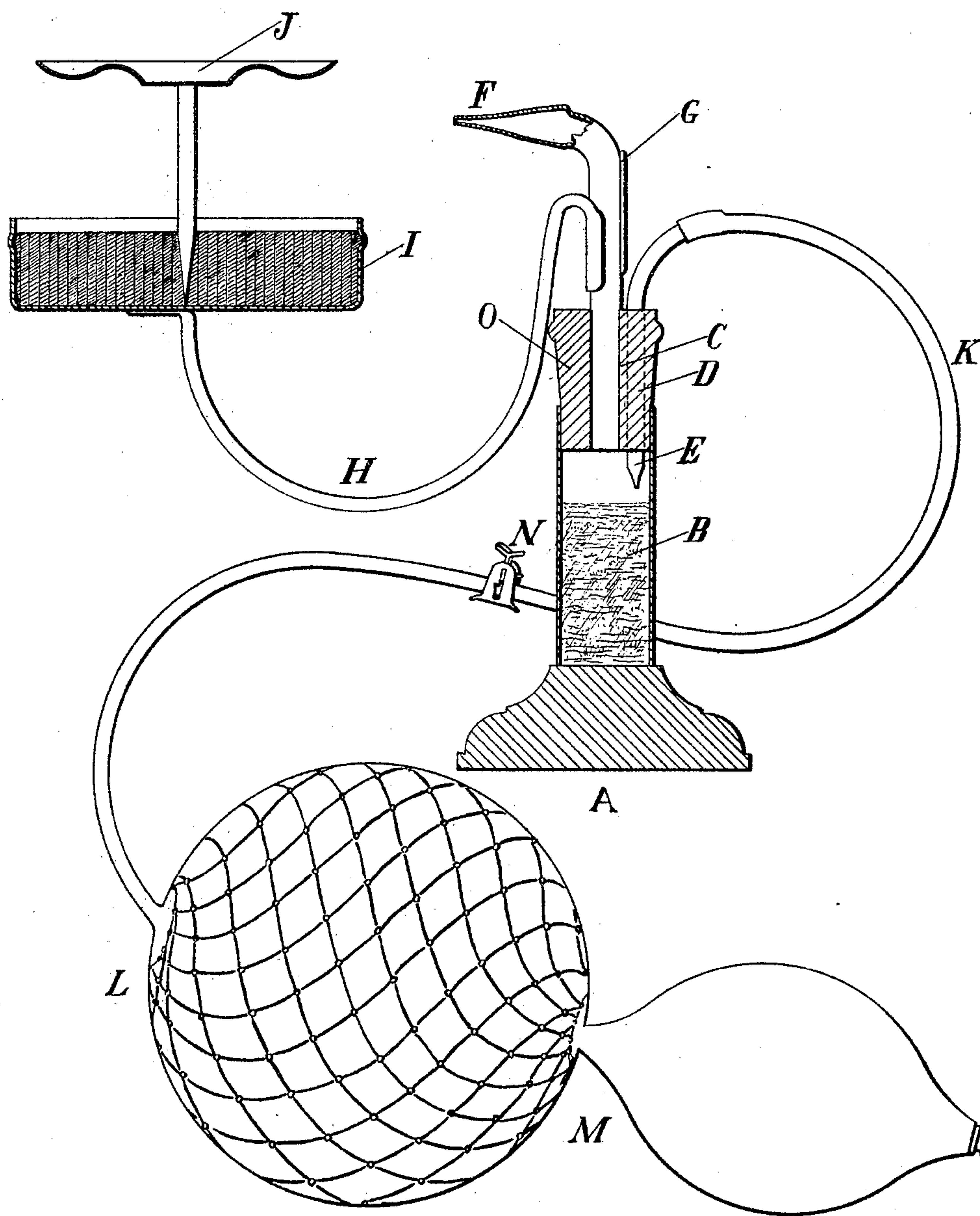
(No Model.)

H. CAMPBELL.

FLASH LAMP.

No. 435,884.

Patented Sept. 2, 1890.



WITNESSES:

Samuel Campbell
Adolphus D. Page

INVENTOR

Howard Campbell
BY Samuel Campbell
his ATTORNEY.

UNITED STATES PATENT OFFICE.

HOWARD CAMPBELL, OF BROOKLYN, ASSIGNOR TO THE PHYSICIAN'S SUPPLY
MANUFACTURING COMPANY, OF NEW YORK, N. Y.

FLASH-LAMP.

SPECIFICATION forming part of Letters Patent No. 435,884, dated September 2, 1890.

Application filed February 19, 1890. Serial No. 341,021. (No model.)

To all whom it may concern:

Be it known that I, HOWARD CAMPBELL, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Flash-Lamp, of which the following is a specification.

The object of my invention is to provide an apparatus for producing from magnesium or other suitable powdered material flashes of light the intensity and duration of which can be exactly regulated, from an instantaneous flash to a continuous light of powerful brilliancy.

My invention consists in combining the parts hereinafter described so as to form an apparatus for producing the above results.

The drawing represents a central vertical section of my apparatus and its general form.

A is a disk of metal.

B is a perpendicular hollow tube forming a powder-receptacle.

O is a stopper fitted into the top of receptacle.

D is an air-induction tube having an air-valve E.

C is an ejector-tube, through which the powder passes to the flame-box.

G is a reflector-holder, and H an armature for holding the flame-box.

I is a centrally-perforated flame-box supported on the armature and filled with an alcohol-absorbent.

J is a metal disk placed above the flame-box for spreading the flame and intensifying the heat.

K is a rubber tube connecting (by the induction-tube) the powder-receptacle with a thin rubber inflatable bulb L, surrounded by net-work.

M is a small hand-compressible air-bulb for inflating the large bulb.

N is a tube-compressor for checking and regulating the flow of air.

In operating the apparatus the powder-

receptacle B is charged with powder, the alcohol-lamp I lighted, the large bulb L inflated by compressing the smaller bulb M. When the tube-compressor N is opened the air rushes into the powder-receptacle B through the air-valve E, and mixing with the powder carries it out through the ejector-tube C at F over the flame-box I. By compressing the tube K the flow of air is entirely or partially shut off, instantly extinguishing or reducing the light at pleasure. By keeping the elastic or reservoir bulb L inflated and the tube-compressor N open, a continuous and even light will be produced as long as there is any powder in the receptacle, which can be of any size.

A continuous light might be produced by attaching a double bellows or an air-compressor to the tube K, without departing from my invention; but the double bulbs L and M are preferable.

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

1. A magnesium flash-lamp having a powder-receptacle formed in the standard of the lamp closed at the top with a stopper, through which run parallel tubes, one supporting a flame-box and the other containing an air-valve, and connected by tubing with a double bulb or other air-compressor, substantially as described.

2. The combination, in flash-lamps, of a reflector-holder on the ejector-tube, a disk of metal placed over a centrally-perforated flame-box for spreading the flame, and an instantaneous shut-off for stopping or reducing the flow of air into the powder-receptacle, substantially as set forth.

Signed at the city of New York, in the county of New York and State of New York.

HOWARD CAMPBELL.

Witnesses:

SAMUEL CAMPBELL,
ADOLPHUS D. PAPE.