

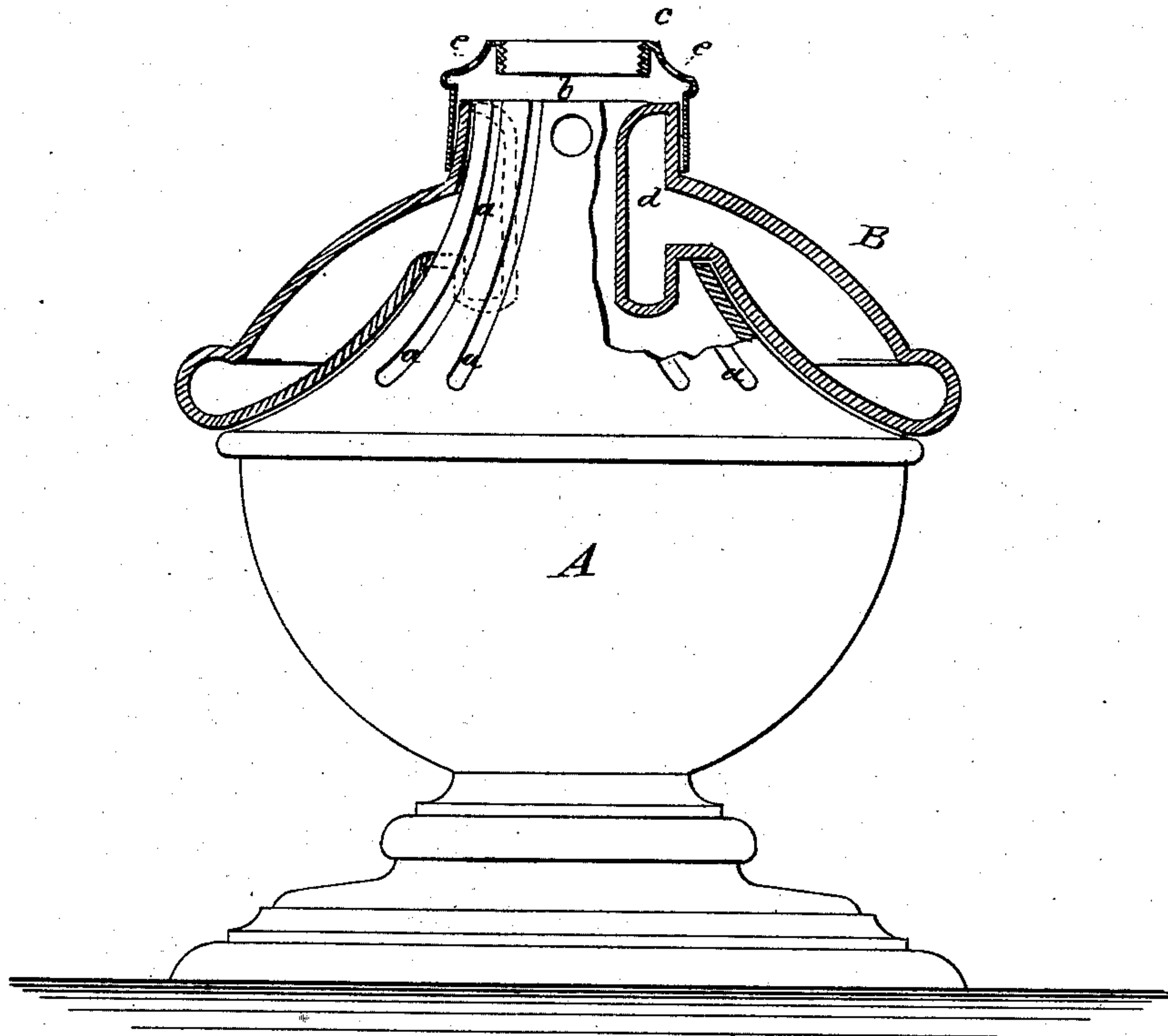
(No Model.)

M. A. HEATH.  
Safety Lamp.

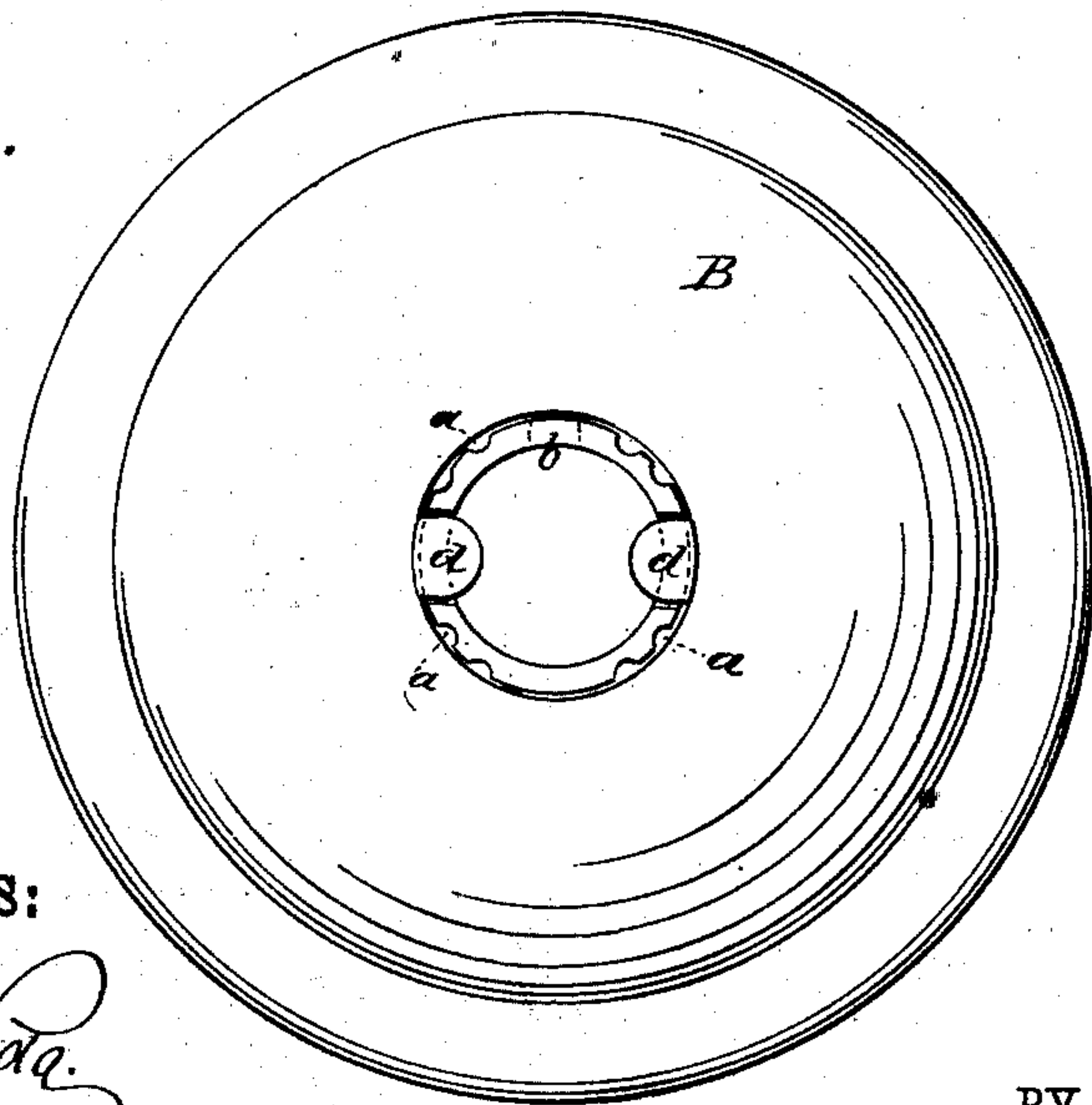
No. 238,234.

Patented March 1, 1881.

*Fig: 1.*



*Fig: 2.*



WITNESSES:

*Chas. Nida.*  
*C. Sedgwick*

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# UNITED STATES PATENT OFFICE.

MARK A. HEATH, OF PROVIDENCE, RHODE ISLAND.

## SAFETY-LAMP.

SPECIFICATION forming part of Letters Patent No. 238,234, dated March 1, 1881.

Application filed July 7, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, MARK A. HEATH, of Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Safety-Lamps, of which the following is a specification.

Safety-lamps have heretofore been made with a chamber containing carbonic-acid gas, which gas escapes when the lamp is broken, the intention being that the gas shall extinguish the flame. The gas-chamber in such lamps is formed by an inner and outer globe of glass, united at the upper side, the inner globe forming the oil-reservoir. These lamps are expensive to manufacture, as they must be blown. The principal portion of the gas is distant from the flame, and the outer shell is liable to be first broken and the gas discharged without effect.

To obviate these difficulties is the object of my invention, which consists in certain details of construction whereby the passage of the gas to the inside of the reservoir and to the flame is insured.

In the accompanying drawings, forming a part of this specification, Figure 1 is an elevation, partly in section, of a lamp embodying my invention; and Fig. 2 is a plan view of the same, the burner being removed.

Similar letters of reference indicate corresponding parts.

A is the fountain or reservoir of the lamp, which may be made in any desired shape, and will preferably be made of metal, with neck *b*, and fitted upon a suitable stand. Upon the surface of the neck of reservoir A, and extending downward upon the body, there are a number of grooves or flutes, *a*, for purposes hereinafter mentioned.

B is the jacket or gas-chamber, the same being made of glass, in a form to set snugly upon the body A and around the neck *b*, which projects through to receive the collar *c* of the

burner. The jacket B is formed hollow, and made with hollow projections *d* at the inner side of the neck-aperture, which projections extend inside the reservoir through slots in the neck *b*.

The jacket B, when manufactured, is to be filled with carbonic-acid gas, under pressure, and sealed. When placed upon the body and the collar *c* secured in place, the jacket is held securely, but may be readily replaced by another in case of breakage. The collar *c* is formed with perforations, as shown at *e*, and the grooves *a* of the lamp-body form passages beneath the jacket, so that in case the breakage of the jacket is at the under side the gas may pass to the inner side of the neck, and by the perforations *e* directly up to the flame. In case the breakage is in the hollow projections *d* the gas is discharged above the oil, and will extinguish the flame if the oil is on fire and also rise to the flame of the lamp.

By this construction the gas is carried at the upper side of the lamp, so that in case of breakage it will envelop the lamp, and the jacket is not liable to be broken except when the lamp falls.

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

1. In safety-lamps, the glass chamber or jacket B, combined with the body A, having neck *b* and grooves *a*, and provided with the perforated collar *c*, substantially as and for the purposes set forth.

2. In safety-lamps, the hollow jacket or chamber B, provided with the hollow projections *d*, combined with the body A, having the slotted neck *b*, substantially as and for the purposes set forth.

MARK ANTONY HEATH.

Witnesses:

CHARLES HEATH,  
E. A. CARPENTER.