C.M. Gould & C.B. Lamb,

Lantern.

No. 14,608. Patented Apr. 8, 1856.

Fig. 1.

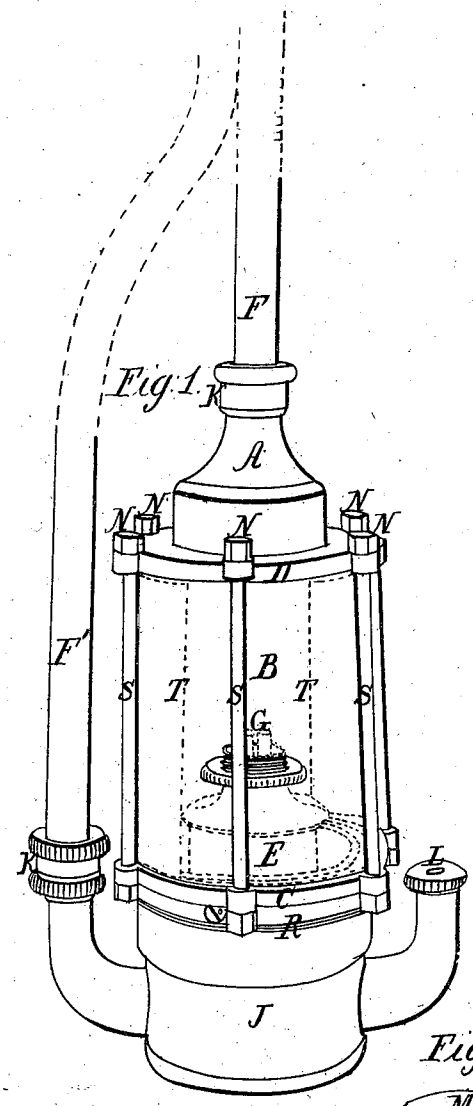


Fig. 2.

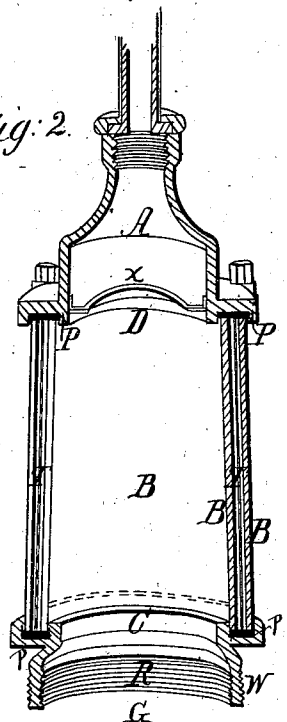


Fig. 3.

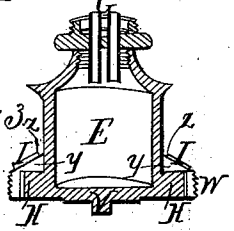


Fig. 4.

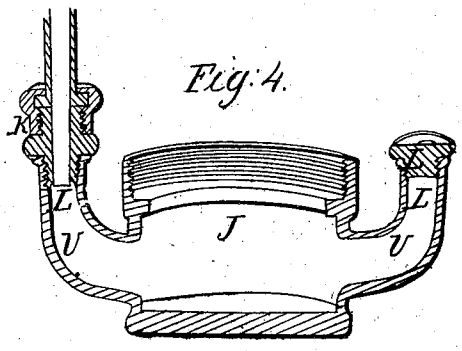
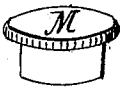


Fig. 5



UNITED STATES PATENT OFFICE.

CHS. M. GOULD AND CHS. B. LAMB, OF WORCESTER, MASSACHUSETTS.

SUBMARINE LANTERN.

Specification of Letters Patent No. 14,608, dated April 8, 1856.

To all whom it may concern:

Be it known that we, CHARLES M. GOULD and CHARLES B. LAMB, both of the city and county of Worcester and State of Masachusetts, have invented a new and useful Apparatus for Illuminating Objects under Water, which we denominate the "Submarine Lamp;" and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings and the letters of representation thereon.

The like letters indicate like parts in all the drawings, Figure 1, being a perspective view of the lamp. Figs. 2, 3, 4 are sections in detail of the same.

The house, or chamber of the lamp (B, Fig. 1) is composed of two concentric cylinders of glass with an annular space between (T T, Fig. 2). The cylinders are confined in place by the metallic plates D and C which are recessed as shown at P, P, Fig. 2, so as to receive the ends of the cylinders and also suitable packing to insure the joints from leakage. These plates are held firmly against the ends of the cylinders by screws of the bolts S, S, S, Fig. 1, passing from the top to the bottom plates D and C and secured by the nuts N, N, N. The top plate D has a chamber A which terminates in a screw neck K to which is connected an escape pipe F. At the entrance of the top chamber A is placed an arched shield X. This shield is so connected with the sides of the chamber as to allow a free passage of air curents between its edges and the sides of the chamber.

The annular space between the cylinders is not for the purpose of introducing a reflector, or specially necessary as the place for the reflector, but serves as a reservoir of air to prevent by its nonconducting properties the condensation of the air passing through the lamp.

The reservoir of the lamp (E, Fig. 3,) has a broad flanch in its bottom V, on the edge of which a thread is cut (W) for the purpose of securing the reservoir to the bottom plate C at R, Fig. 2. On the top face of the flanch is a small air chamber Y and the flanch is perforated with small holes H H into the chamber. The top of the chamber is likewise perforated with small holes Z in opposite points to those in the flanch, and are covered by spring valves I I. On the exterior of the perforation R of the bottom plate C, a thread W is cut on to which is screwed a chambered bottom J Fig. 4. This bottom has two hollow arms U, U one of which L has a screw plug inserted, and the other L′ a screw coupling K to which is attached a feed pipe.

In the annular space T, Fig. 2, between the glass cylinders a silver plate, about one half the diameter of the inner cylinder is inserted to act in the capacity of a reflector.

In order to supply the interior of the lamp with air while the connections are being made previous to its submersion a small hole (O, Fig. 1) is made below the flanch of the bottom plate C. When the apparatus is to be submerged a plug is screwed into the hole air tight.

When the several parts are in position and the joints made air tight by means of leather or other equivalents, a current of air, by the use of an air pump, is forced down through the feed tube F into the chamber J and from thence it passes into the house B through the perforations H H, and subchamber W supplying the lamp with the proper atmosphere and then passing off through the space between the arched shield X and sides of chamber A and thence into the escape pipe F, carrying out the carbonic and other gases evolved by the combustion of the flame. The spring valves serve to equalize the air currents in their passage through the house, and the shield X to prevent the flame from being tapered out by the draft.

What we claim as our invention and desire to secure by Letters Patent of the United States is—

1. The two concentrically arranged, glass cylinders having an air space between them in the manner and for the purpose specified.

2. The air chambers J and Y, with the communicating perforations H, H, and spring valves I, I, in combination with the feed and escape pipes F, F, constructed substantially in the manner and for the purpose herein described.

CHARLES M. GOULD.
CHARLES B. LAMB.

Witnesses:
C. B. WETHERELL,
GEO. SWAN.