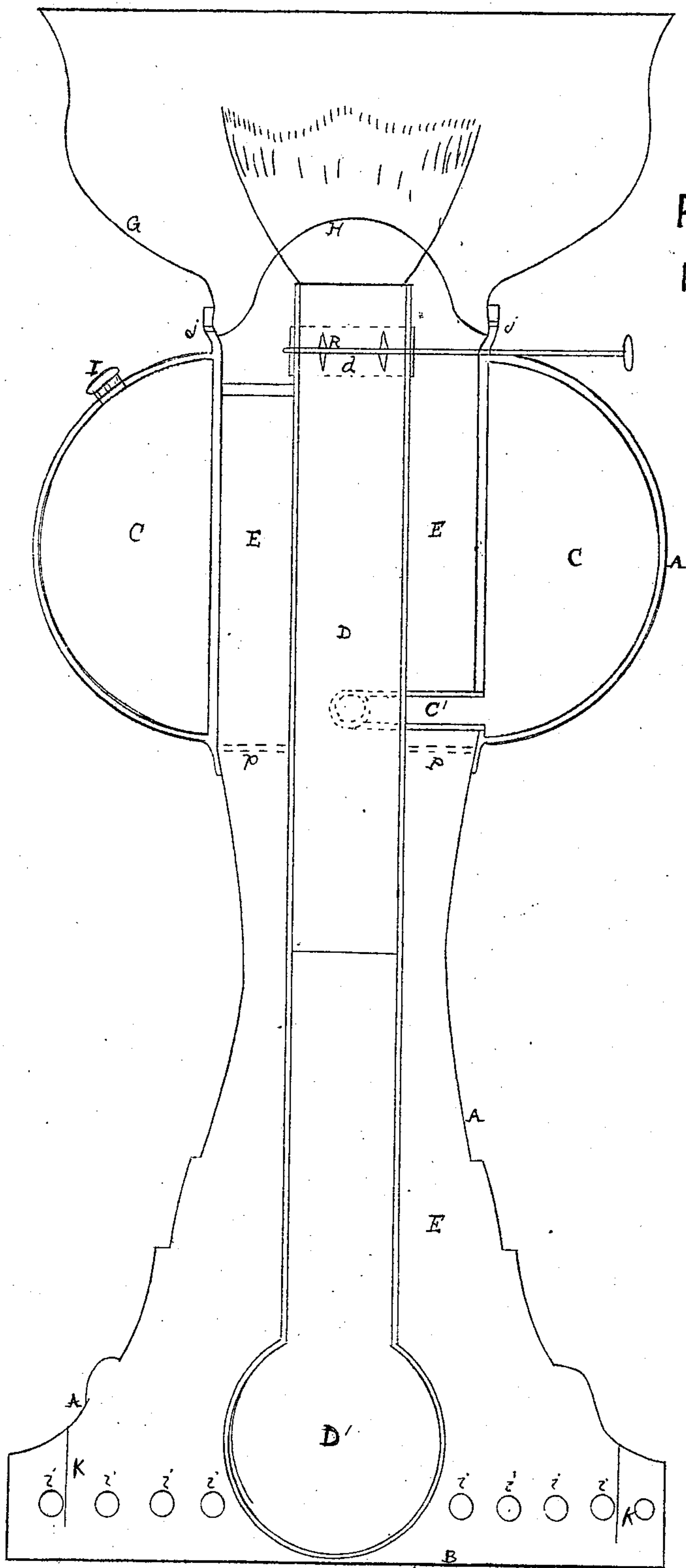


George A. Bridler

Imp<sup>t</sup> in Lamps

71268

PATENTED  
NOV 26 1867



Witnesses { Jos. E. Loombs  
J. J. Spooner

Inventor  
George A. Bridler

# United States Patent Office.

GEORGE A. BEIDLER, OF CHICAGO, ILLINOIS.

Letters Patent No. 71,268, dated November 26, 1867.

## LAMP.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE A. BEIDLER, of Chicago, in the county of Cook, and State of Illinois, have invented a new and useful Improvement in Kerosene Lamps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My improvements relates to that class of lamps in which the flame is fed by a current of air from below, conducted up from the base, through a tube or hollow case, and in which said upward current is induced by rarefying the air within said hollow case or tube. The accompanying drawing represents a vertical section of a lamp containing my improvements.

A is the outer casing of the lamp; B the bottom plate; C an annular oil-cup or reservoir; C' a connecting-pipe or feeder, for conveying oil from the annular oil-cup to the wick-tube, and D is a flat-wick tube, with a bulb or globe, D', at its lower end. E is an annular air-chamber or tube, through which the air ascends from the base of the lamp to feed the flame entering through perforations *i i i*. R is the ratchet for raising and lowering the wick, enclosed in a semicircular drum, *d*, to prevent any oil from escaping through the slots in which the ratchet-wheels work, and running down the wick-tube. I is the orifice through which the oil-cup is supplied with oil. G is a glass globe or shade, which may be of the form shown in the drawing, or in the form of an ordinary lamp-globe. H is a dome-deflector, made in the usual form. Just above the deflector, and below the glass globe, there is an annular series of perforations, (two of which are shown at *j j*), to admit air within the globe for feeding the flame above the deflector. As a globe-holder, I prefer to use a detachable metal ring, slipping on to an annular flange rising from the top of the lamp-case, at the base of the dome-deflector, in which case the globe-seat and the perforations *j j* will be in said detachable ring. It will be seen that the usual detachable "burner," consisting of a perforated cup or shell, wick-tube, &c., is wholly dispensed with, and the lamp can be replenished with oil without removing anything but the plug from orifice I. By dispensing with the usual detachable "burner," a portion of the expense of construction is saved. K is an annular flange or ring, attached at its upper edge to the case A, and extending down a little below the perforations *i i*, to serve as a "breaker," and prevent sudden gusts of air from affecting the flame; and as a further protection, one or more perforated plates *p* may be interposed at any points between the base of the lamp and the flame, through which the air must pass before reaching the flame. As by the heating of the annular oil-cup, some gas must be generated therein, provision should be made for the escape of such gas through a very small orifice in the upper part of the oil-cup. The wick-tube should be made of copper, or some other metal which is a good conductor of heat. When the lamp is lighted, the heat from the flame will be rapidly conducted down the wick-tube, rarefying the air in the chamber or tube E, and thus causing an ascending current of air therein, which is fed to the flame through the dome-deflector. At the same time, if a glass globe be used, as I prefer, the flame will be further fed with air above the dome-deflector, through the perforations *j j*, introducing it at the bottom of the globe.

I do not claim, broadly, conducting heat from the flame, by means of a metallic conductor, down into a tube or hollow case below to rarefy the air therein, and cause an ascending current of air to feed the flame; but what I do claim as my invention, and desire to secure by Letters Patent, is—

1. In-combination with an annular oil-reservoir, and an inner tube or air-chamber for conducting air to the flame from below, a metallic wick-tube, extending down into said air-chamber, and so constructed and arranged as to operate as a conductor of heat, to rarefy the air in said chamber, and cause an ascending current therein, substantially as described.

2. In combination with a tube or hollow case for conducting air to the flame from below, and a metallic conductor to convey heat down from the flame into said tube or hollow case, and rarefy the air therein, to cause an ascending current, I claim a glass globe or cup surrounding the flame, with apertures for introducing air within said globe or cup, and feeding the flame above the dome-deflector, substantially as described.

3. In combination with a tube or hollow case for conducting air to the flame from below, and a metallic conductor to convey heat down from the flame into said tube or hollow case and rarefy the air therein, to cause an ascending current, I claim one or more perforated plates, so located between the base, where the air enters the tube or chamber, and the flame, that the air must pass through said perforated plate or plates before reaching the flame, substantially as described.

GEORGE A. BEIDLER.

Witnesses:

J. J. COOMBS,  
Jos. L. COOMBS.