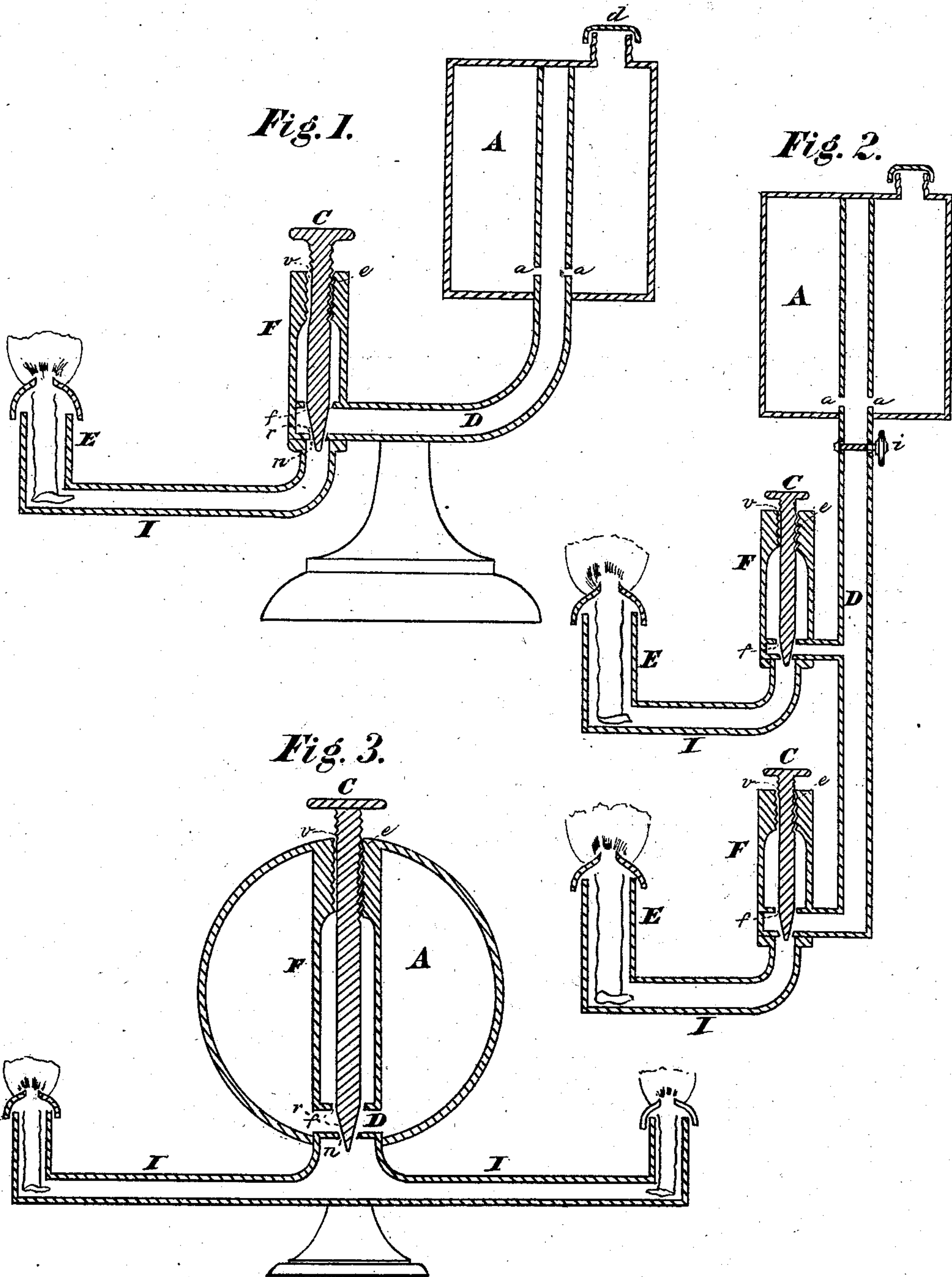


G. J. COOK.
Lamp.

No. 224,394.

Patented Feb. 10, 1880.



WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE J. COOK, OF LOUISVILLE, KENTUCKY.

LAMP.

SPECIFICATION forming part of Letters Patent No. 224,394, dated February 10, 1880.

Application filed July 21, 1879.

To all whom it may concern:

Be it known that I, GEORGE J. COOK, of Louisville, county of Jefferson, and State of Kentucky, have invented certain Improvements in Lamps, of which the following is a specification.

My invention relates to the construction of a lamp for burning oil or other burning-fluid in such a manner that the feeding of the fluid to the burner shall be regulated automatically by the agency of common air, and to certain devices by means of which the admission of air for that purpose may be conveniently cut off, and to certain other devices by means of which the flow of oil may be cut off when and as desired.

My said invention will be hereinafter more fully described with reference to the accompanying drawings, in which—

Figure 1 represents a longitudinal vertical central section of a lamp; Fig. 2, a like view of the same, showing means for feeding the oil to two burners, one below the other, and both receiving oil from the same tank; and Fig. 3, a like view of the same, showing the air-cylinder and oil-tube within the tank.

The oil-tank A is made air-tight, and is filled through its neck, which is closed by screw-cap *d*.

D is the oil-supply pipe, provided with openings *a* within the oil-tank, in order to relieve the operative parts below them from the pressure of the body of the oil above them, and it extends up to the top of the tank, and forms an air-tight joint therewith, in order that when the tank is filled with oil it may contain a column of air, which will aid in the regulation of the feed of the oil to the wick-tube.

The oil-pipe D leads to and passes through air-cylinder F, which is much larger than it is, and within the said air-cylinder it is provided with two orifices, one above the other, of such diameters that they will fit closely around the lower beveled end of the screw-shaft C, which, at its upper end, is provided with a male screw-thread to correspond with a female screw-thread in the interior of the upper end of the cylinder F.

By means of this construction and arrangement of parts the screw-shaft can be turned down into or up out of the orifices in the oil-

pipe D at will, so that the flow of oil into the wick-tube I may be stopped at any time by that means.

The screw-shaft C is also provided with a flat face, *v*, which extends from below up to within a suitable distance of the upper end of the screw-thread *e*, so that when it is turned up, with its beveled end *r* out of the orifices in the oil-pipe, air will be admitted by means of the passage afforded by the flat face *v*, but when the shaft is turned down into its seats the flat face *v* will be below the upper end of the cylinder and the air be excluded.

The results of this construction are that when the shaft C is down no air will be admitted and no fumes of the oil allowed to escape, to offend by their odor, and the oil in the pipe D will be cut off from both the cylinder F and the wick-tube I; but when the shaft is up the air will be admitted through passage *v* down into oil-pipe D, and thence will force its way up into the upper end of pipe D, and thence through the orifices *a* to the surface of the oil in tank A, and then a corresponding modicum of oil will find its way into the lower end of pipe D.

Fig. 2 is designed to illustrate how any number of burners, together with my described devices, may be supplied with oil from the same tank, which may be placed in the attic or any other part of a building, or in any imaginable position in reference to the burners, provided, always, that it be above them, so that the oil will feed by its own weight.

A valve, *i*, may be made to cut off the flow of the oil through the pipe D to the burners at the time the tank may be filled.

In Fig. 3 the construction is similar, and the air and oil will pass each other in pipe D.

Now, the theory of the operation of this improved construction is that, upon filling the oil-tank A, the oil will flow by its own weight through the orifices *a*, through pipe D to the upper orifice, *f*, therein, and then, if the shaft C be turned up, a modicum of air will be admitted through passage *v* into oil-pipe D, and thence it will force its way up into the column of air in the upper end of pipe D, and thence in through the orifices *a* and to the surface of the oil in the tank A, and immediately thereupon a corresponding modicum of oil will force

its way through one of the orifices *a* from the tank down pipe D, and through its lower orifice, *n*, into the wick-tube I.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the air-cylinder F and the screw-shaft C, provided with the flat face *v*, adapted to admit the air when the shaft is up and to exclude the air as well as to exclude the oil from pipe D when it is down, substantially as and for the purpose described.

2. The lower end of pipe D, provided with orifices *f* and *n*, in combination with the lower and beveled end, *r*, of shaft C, adapted to stop the passage of both air and oil, substantially as described.

3. The combination of the air-tight oil-tank A with that part of the oil-pipe D which extends within and through the same, and is attached by an air-tight joint, and which is provided with orifices *a*, adapted to hold a column of air above said orifices and aid in the automatic feeding of the oil, substantially as described.

4. The combination of the screw-shaft C, air-cylinder F, oil-pipe D, and oil-tank A, substantially as and for the purpose described.

GEORGE J. COOK.

Witnesses:

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