

(No Model.)

2 Sheets—Sheet 1.

V. DI MARZO.
SELF REGULATING LAMP.

No. 418,113.

Patented Dec. 24, 1889.

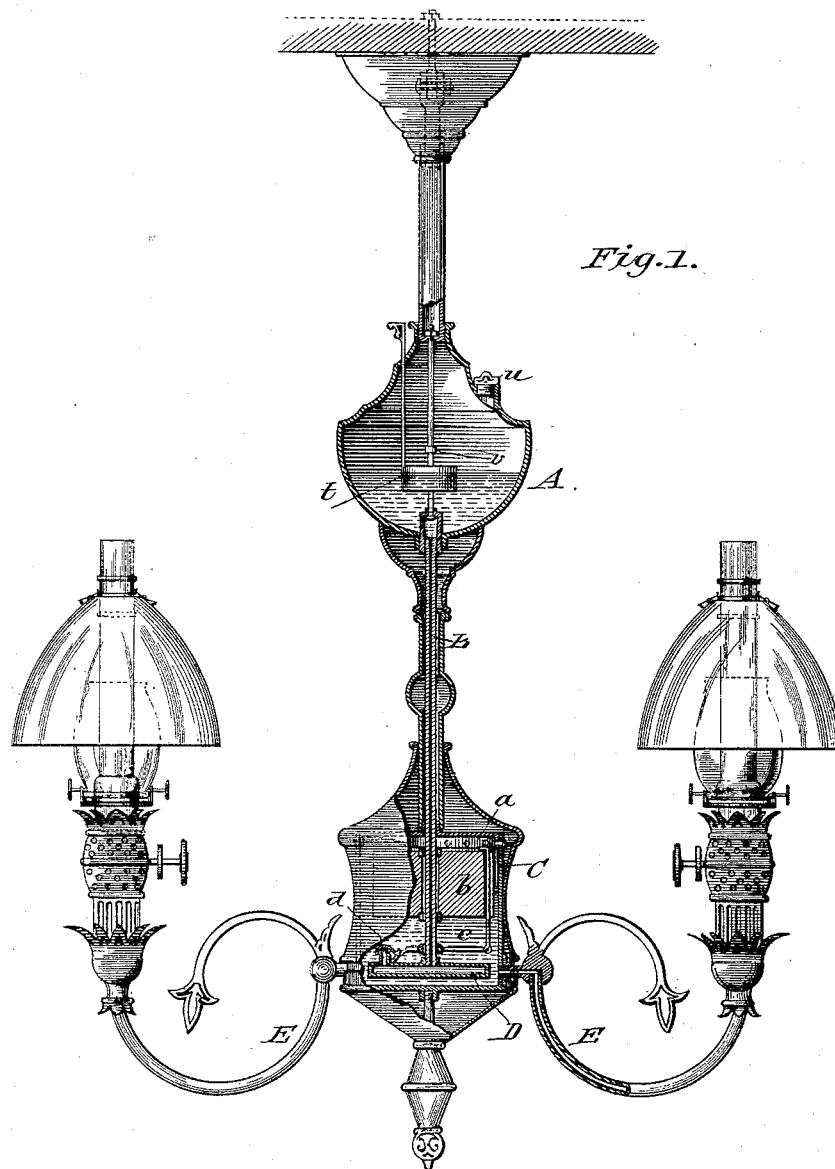


Fig. 1.

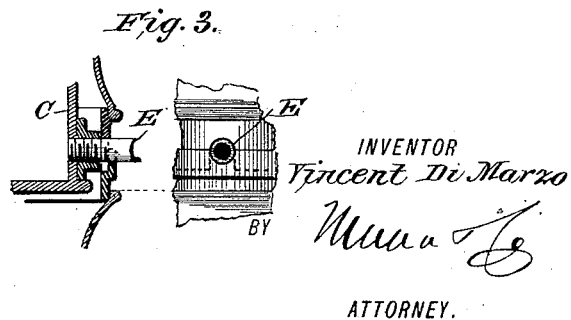


Fig. 3.

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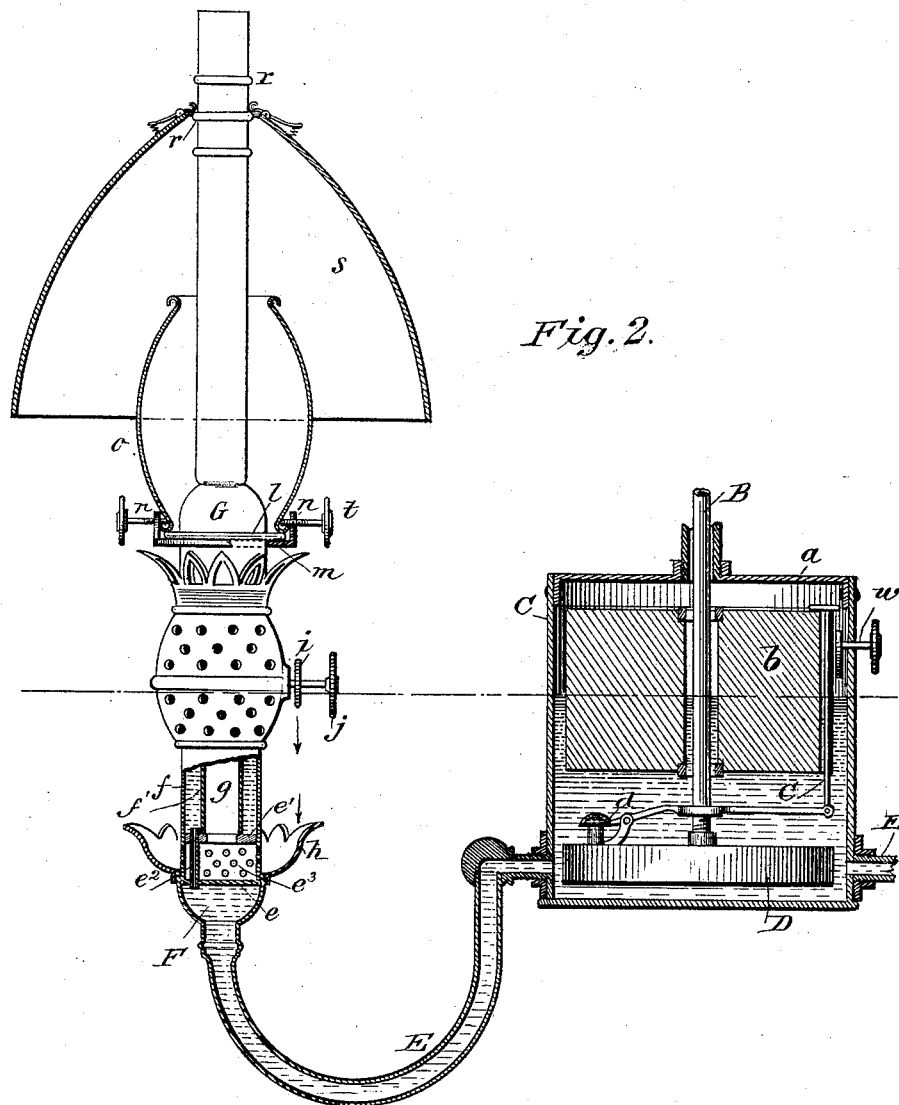
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V. DI MARZO.
SELF REGULATING LAMP.

No. 418,113.

Patented Dec. 24, 1889.



WITNESSES:
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UNITED STATES PATENT OFFICE.

VINCENT DI MARZO, OF LOUISVILLE, KENTUCKY.

SELF-REGULATING LAMP.

SPECIFICATION forming part of Letters Patent No. 418,113, dated December 24, 1889.

Application filed August 14, 1889. Serial No. 320,771. (No model.) Patented in Belgium March 15, 1887, No. 76,499, and May 31, 1887, No. 77,372.

To all whom it may concern:

Be it known that I, VINCENT DI MARZO, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Self-Regulating Lamps, (for which Letters Patent were granted to me in Belgium March 15, 1887, No. 76,499, and May 31, 1887, No. 77,372,) of which the following is a specification.

My invention relates to self-regulating lamps, and especially to that form of lamp shown in my previous United States patent, No. 339,911, dated April 13, 1886, in which an elevated oil-reservoir supplies oil to a lamp by gravity in a continuous manner through the agency of an interposed regulator, which allows only a regulated quantity of oil to pass to the lamp, so as to prevent flooding the burner with oil.

My invention consists in the peculiar construction and arrangement of the various parts of the lamp operating upon this general principle, which construction I will first fully describe, and then point out in the claims.

Figure 1 is a side view of two lamps connected together in the form of a chandelier, with the middle portion in section. Fig. 2 is an enlarged sectional view of one of the lamps, showing also a part of the regulator to which it is attached; and Fig. 3 are details showing the joint which the feed-tube of the lamp forms with the regulator.

A is the oil-reservoir, which is located above the level of the lamps in the main central stem. This reservoir is provided with an inlet for filling it, covered by a screw-cap *u*, and has also sliding on a central stem a float *t*, with an attached stem extending upwardly through the reservoir to serve as an indicator for the oil-level, and indicates when at its lowest point that the reservoir requires refilling. This float is prevented from rising to an undesirable height by a stop *v* on the central stem. From the bottom of this reservoir there extends a tube B, which conducts the oil to regulator-chamber C. The top *a* of this regulator-chamber is rendered detachable for easy inspection and cleaning, and through this top the tube B extends nearly to the bottom of the chamber, where it communicates with a closed chamber D,

having a nipple on its upper side communicating with the interior of the regulator-chamber. This nipple is closed, so as to cut off communication between reservoir A and regulator-chamber C, by means of a valve or cap *d*, which is constructed on the end of a lever fulcrumed near the nipple, and the long end of which lever is connected by a rod *c* with a float *b*, which slides up and down on the central tube B within the chamber C and is maintained at a height dependent upon the level of the oil in the chamber. This level is adjusted so as to keep it a little below the burner of the lamps, and when the oil-level in chamber C falls below this line the float descends and, opening valve *d*, admits oil from the reservoir A to the chamber C, and as soon as the float *b* is raised thereby to the normal level it lifts rod *c* and closes valve *d*, so as to cut off the supply of oil, thus automatically regulating the same. Sometimes it may be desirable to positively raise the float *b* or rod *c* by hand to cut off oil from the lamp, and for this purpose a short rotary shaft *w*, Fig. 2, is tapped through the side of the regulator-case and is provided with a button on its outer end and an arm on its inner end adapted, when the shaft is turned, to engage and positively lift the rod *c*. In constructing these parts the top *a* of the regulator-chamber is made detachable therefrom by screw-connections, so that when it becomes necessary to inspect the regulator or clean out the sediment that may accumulate therein the top of the chamber and the other parts attached to tube B may be readily taken out for inspection thereof and access to the bottom of chamber C.

Upon the outside of pipe B and around the regulator-chamber C there is constructed an ornamental spun casing of polished metal, which is joined in sections adapted to the joints of the internal construction, so as to permit the ornamental casing to be easily applied after the operative parts of the device are set up.

From the regulator-chamber C near its bottom there extend two or more tubes E, which sustain each its lamp and conveys the oil to the same from the regulating-chamber C. This tube E terminates below the lamp

in an enlargement F, Fig. 2, having a closed top e . Upon this is constructed an annular oil-tube composed of an inner wall f' and an outer wall f . The outer wall f extends to the top e of the enlargement F and is perforated with a series of holes at e^3 , which admit air to the interior air-tube g , formed inside of the inner wall f' . At the bottom of the wall f' there is an annular partition e' , which closes the bottom of the annular oil-tube, but allows a free admission of air from the space e^3 to the air-tube g , so as to supply the central air-draft of the ordinary "Argand-burner," which I employ in my lamp. To feed the oil from the enlarged chamber F to the annular oil-chamber at the bottom of the Argand burner, a short tube e^2 serves to put these two spaces into open communication.

The circular wick of the Argand burner is not shown, as it is of common construction and simply fits in the top of the annular chamber formed between walls f and f' , and said wick at its lower end dips down into the oil in said chamber and is raised and lowered by the toothed wheels on a transverse shaft having a button j on its end, as in lamps now in common use. Upon the shaft beside the button j , but closer up to the burner, I attach another disk or button i , and beneath it I attach to the burner a drip-cup h . The object of this is as follows: With my construction of lamp the oil is admitted to the wick and rises well up toward the burner, and a certain amount of oil will ooze through or become condensed on the shaft and would form in a drop on the turning-button j , which would not only soil the fingers, but would eventually drop down and soil the carpet. To prevent this, I catch this condensed drop on the first button i (leaving j clean) and catch the drop when it falls in the drip-cup h , which extends far enough out to pass the vertical line of the first button.

The chimney G of the lamp I construct

with a circular glass flange l around it near its bottom. To the under side of this flange is fitted a metal ring m , with upturned ears n for the set-screws t , which secure the globe o . The lower edge of the globe o being tightly held to the top side of the glass flange by means of the metal ring below, it will be seen that the globe and chimney are connected together and are together removable from the burner by one adjustment. I also construct the top of the chimney with glass flanges r to form a support for the lamp-shade s , which is thus held positively against slipping accidentally up or down. There are several of these flanges r , so as to give a range of vertical adjustment for the shade.

Having thus described my invention, what I claim as new is—

1. The combination, with the lamps, of the regulator-chamber C, having a detachable cover a , the feed-tube B, passing therethrough and provided at its lower end with a chamber D, located in the bottom part of the regulator-chamber and having an opening into the regulator-chamber, a valve controlling said opening and provided with a lever for operating it, and a float connected to the lever, substantially as shown and described.

2. The combination, with the lamp-burner and the feed-tube E, of the double walls ff' , forming an annular oil-chamber and internal air-flue, the perforated air-chamber e^3 , partitions $e e'$, and oil-tube e^2 , extending through the perforated air-chamber and connecting the oil-supply pipe with the annular oil-chamber, substantially as shown and described.

The above specification of my invention signed by me in the presence of two subscribing witnesses.

VINCENT DI MARZO.

Witnesses:

GEO. H. ALEXANDER,
EDW. W. BYRN.