

I. VAN BUNSCHOTEN.

Lamp.

No. 11,979.

Patented Nov. 21, 1854.

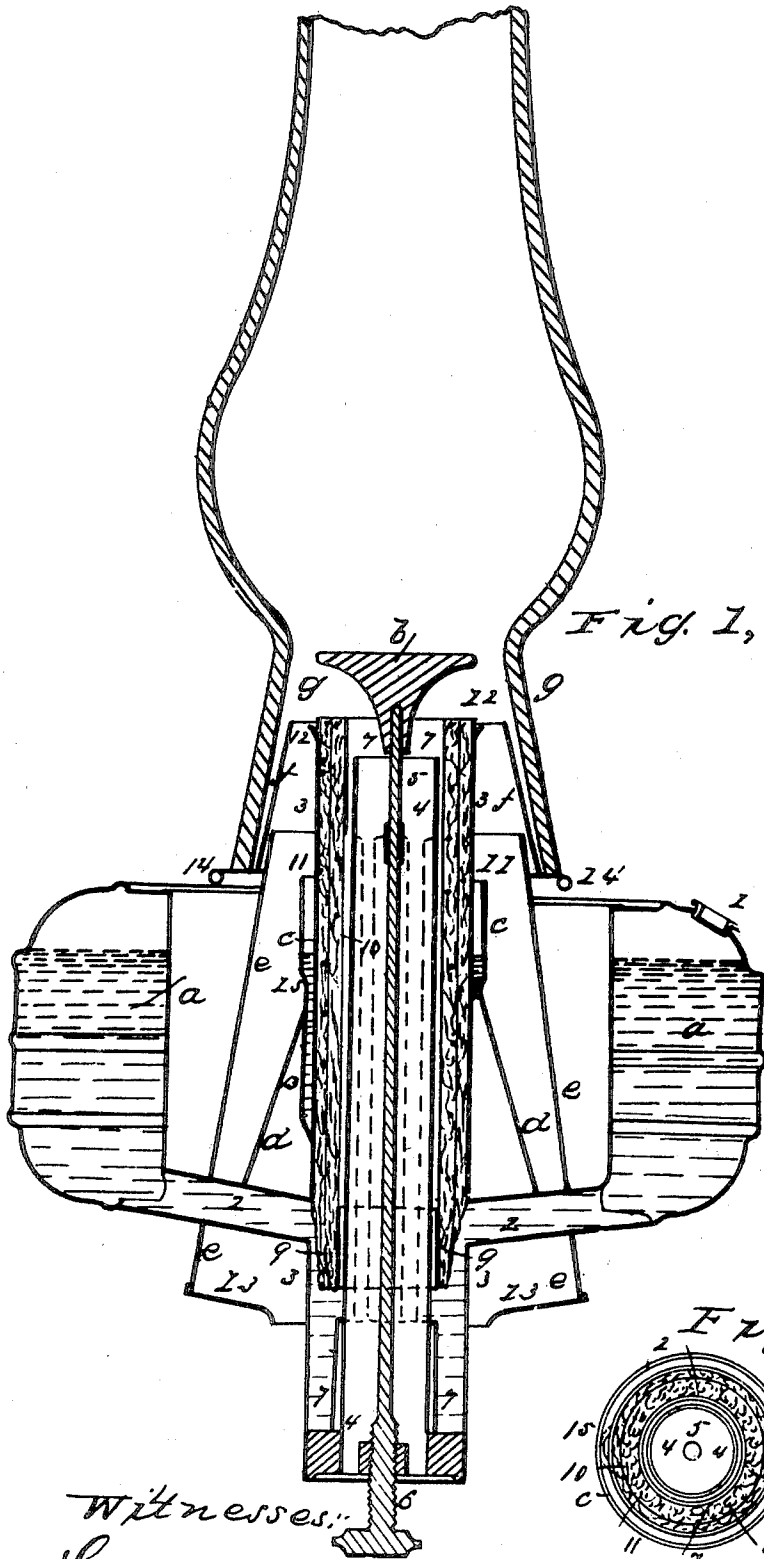


Fig. 1,

Fig. 2,

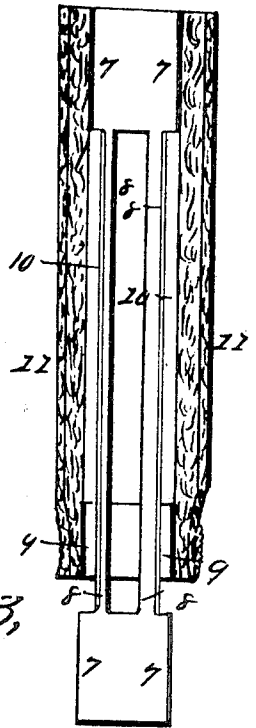
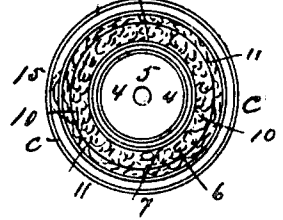


Fig. 3,



Witnesses:
 Geo W Reid
 Lemuel W Pull,

Inventor:
 Isaac van Bunschoten.

UNITED STATES PATENT OFFICE.

ISAAC VAN BUNSCHOTEN, OF NEW YORK, N. Y.

LAMP

Specification of Letters Patent No. 11,979, dated November 21, 1854

To all whom it may concern:

Be it known that I, ISAAC VAN BUNSCHOTEN, of the city, county, and State of New York, have invented, made, and applied to use certain new and useful improvements in Lamps for Burning Rosin-Oil or Similar Substances; and I 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 annexed drawing, making part of this specification, wherein—

Figure 1 is a vertical section of a lamp complete; Fig. 2, is a section of the wick and wick holder separately and Fig. 3, is a plan of the overflow or drip cup on the outside of the wick tube.

The like marks of reference designate the same parts.

The nature of my said invention consists in so regulating the draft to a circular or Argand wick or burner that it shall not be influenced by surrounding currents of air to cause the same to smoke by the inequality of air supplied, thereby rosin oil, camphene or similar substances containing a large amount of carbon can be burned; and I also surround the Argand wick with a coating of fine fibrous substance to make the flame more uniform.

a, is a reservoir of any suitable character, supplied with the material to be burned at a screw cap 1. This reservoir communicates by a pipe or pipes 2, to the wick tube or cylinder 3, so as to supply said material to the space between the wick tube 3, and the inner tube 4, communicating the inner draft as usual.

b, is a button. 5, the wire and 6, the screw to adjust the same as now usual.

8, 8, are strips of metal connecting the short thimbles 7, 7, and forming a wick carrier that will conduct but very little heat to the material being burned, and around this carrier a thimble 9 is fitted to slide and carry the lower end of the wick.

In using the ordinary thick cylindrical wick an inequality is produced in the flame, from some of the vertical strands of the wick being turned outward, while others turn inward by the intervening circular filling or connecting thread, consequently a larger body of flame arises from the ends of said strands than from the intervening space, and the small holes thus left allow the

ascent of vapor, which causes a flashing and inequality in the flame. To prevent these difficulties, which are highly detrimental particularly with rosin oil I inclose the thick wick 10, with a thin and finely wove wick or covering 11, fitting closely to said thick wick, which confines all the fibers so that when the top of the wick is cut off the same will be perfectly uniform and give off an even and steady flame. And it will be evident that this covering could not be used with anything but a hollow cylindrical wick, confining the fibers of said wick against the metallic wick carrier, as without the cylindrical wick carrier there would be nothing against which to confine the wick.

The top of the wick tube 3 is formed slightly flaring as at 12, but should any liquid run over the same, in consequence of the heat and capillary attraction, it passes down into a cup *c*, around the tube 3, at any convenient height, and from thence it is carried down by a pipe 15 and returned through a hole into the wick tube. The position of this hole must be such as always to be below the surface of the material being burned or else with rosin oil, camphene, &c., the vapor from the inside of the lamp would pass up, and most likely catch fire. It will be evident that the oil or drip cup *c*, might be extended down sufficiently far to have the hole near its bottom, into the wick cylinder, but I prefer to have the bottom of said cup *c*, higher than the liquid in the reservoir, thereby there will be merely the surface of the burning liquid in the tube exposed for evaporation.

d, is an inverted funnel or cone surrounding the wick tube 3, and *e*, is a larger cone outside the wick tube, the lower part of which is contracted by an annular plate 13, and provided with a flanch 14, on its upper end receiving the ordinary cone *f*, and also a glass chimney *g*, the lower part of which chimney is formed conically to about the line of the top of the light. The operation of these cones in regulating the draft is that any air or draft is compelled to pass vertically between the annular ring 13, and the wick tube 3, and goes into the funnel or cone *d*, from which it passes up the cone *e*, to the flame. The cone or funnel *d*, thus checks any sudden draft which would otherwise cause the lamp to smoke, because any sudden draft entering the cone would tend

to blow back again and check the further supply of fresh air and only allow what is drawn in by the heat of the flame and ascending draft to pass up. And the manner in which the cone and glass chimney are formed I have found peculiarly adapted to burning rosin oil.

I am aware that two Argand wicks have been used in a lamp, the one stationary the other moving over it, but I am not aware that a cylindrical or Argand wick has ever before been confined to the circular wick holder, by means of a thin finely wove wick or coating of finely wove material to retain the fibers in place and avoid inequalities in the flame in consequence of the vertical strands of said thick wick being turned in and out by the circular thread wove into said strands. And I am aware that perforated cones have been used to check the draft, but I am not aware that a cone (*d*,) around the wick tube has ever been combined with the cone (*e*,) outside, and its an-

nular plate (13) by which any sudden drafts tends to check itself as specified, therefore

What I claim and desire to secure by Letters Patent is,

1. The means herein described of confining a thick solar or Argand wick to the metallic wick holder by a finely wove wick or covering for the purposes and substantially as specified.

2. I claim the cone *d*, in combination with the cone *e*, and circular plate 13 around the wick tube to check any sudden draft and prevent the same passing to the flame in the manner and substantially as specified.

In witness whereof I have hereunto set my signature this twenty fifth day of October one thousand eight hundred and fifty four.

ISAAC VAN BUNSCHOTEN.

Witnesses:

GEO. W. REID,
LEMUEL W. SEWELL.