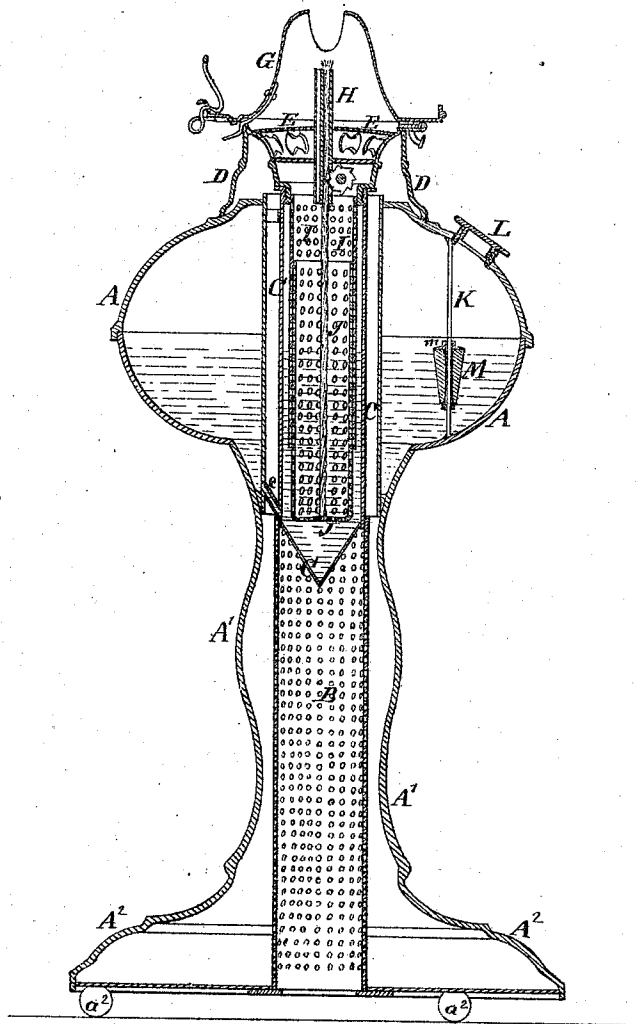


WILLIAM SCARLETT.

Improvement in Lamps.

No. 121,008.

Patented Nov. 14, 1871.



Witnesses,

C. C. Livings
A. Hoernum.

Inventor,

William Scarlett
by his attorney
S. S. S. S.

UNITED STATES PATENT OFFICE.

WILLIAM SCARLETT, OF AURORA, ILLINOIS.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. 121,008, dated November 14, 1871.

To all whom it may concern:

Be it known that I, WILLIAM SCARLETT, of Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Kerosene-Lamps, of which the following is a specification:

The improvements relate to a feed-indicator to show when the lamp is full, (which allows metal lamps to be used with the same convenience as glass and with much greater safety,) to an extensible perforated wick-stiffener, and the general construction and arrangement of the parts of the lamp.

The following is a description of what I consider the best means of carrying out the invention in all its parts and features.

The accompanying drawing forms a part of this specification, showing the whole in one figure, which is a vertical section.

Referring thereto, A is the body of the lamp; A¹, the stock or support; and A², the foot, which latter is held up a little above the table or other object on which it rests by the short legs a², so as to allow air to enter freely. The interior of the stock A¹ is hollow and contains a perforated casing open at the bottom, marked B, through which air is admitted; but any violent current is checked. This is important in rapidly setting down the lamp. The lamp-body is made with an annular air-space around a central chamber, C, which connects by a small pipe, c, with the main body, as is obvious. The air rising through the perforated casing in the stock finds, by reason of the great area of perforated surface due to its cylindrical arrangement, ample space to rise freely; yet its motion is moderated if at any time tending to be too violent. It flows thus freely, but moderately, up around the central chamber C into the space within the close cap D, and ultimately, after being again checked by the perforated metal E, under the cone G, where it supplies the combustion with air under the best conditions for steady and uniform combustion. Other air is allowed access to the exterior of the cone either with or without a chimney, in any ordinary or suitable manner; or, if preferred in any case, such access of other air may be shut off altogether. It is not important that the junction of the cylindrical perforated casing B shall form a tight joint with the bottom of the chamber C; but it should be approximately close, so as to ar-

rest any violent current. The lamp, as will be seen, is thus adapted for a flat wick, and has a flat wick-tube, H. Below the wick-tube it stands in the contracted chamber C, inclosed within an extensible open wick-casing, I J, formed in two parts, as shown. The upper part I is open at the bottom, and of such diameter as nearly to fill the chamber C. The lower part J is closed at the bottom and has an open joint along the side. It is elastic and allows of being forced up within the part I; but by its elastic action springs open and thus holds itself in place within the part I. It is easy to extend it and with it the inclosed wick to a just sufficient extent to exactly reach the bottom of the chamber C; and this construction allows the wick to be removed and inserted without difficulty, and insures that it may always, when inserted, extend quite to the bottom of the chamber C, and thus use up the last drop of oil before the lamp will go out.

Glass lamps, although confessedly more dangerous than metal, have been endured because of their facility for determining the height of the oil. The interior of a metal lamp is dark, and the lamp, in being filled, is liable to overflow before the attendant can know that it is full. My feed-indicator avoids this and allows a metal lamp to be used with greater success and convenience than was before possible.

The wire guide K is soldered in the lamp close to the feed-orifice L. It is by preference soldered firmly fast at both ends, after being inserted through the float M, which is of cork or other convenient floating material, with a large enough hole through to allow it to pass loosely and easily up and down on the wire. The top of the float M is covered by a plate of thin and bright tin plate, m.

When the lamp is filled the top of the float M covered with the bright metal m comes up to the hole L and is very clearly visible. When, for any reason, the cap over the hole L is removed the position of the float M is easily determined by looking down the hole L, because its top is bright, and it shows the level of the oil at all times when the hole L is open.

A broad flat wick may be carried in a lamp with a small interior chamber, C, and may be conveniently and certainly thrust quite to the extreme bottom by reason of its being incased in the extensible tube I J. In every other respect

the lamp is treated like others of its class, except that it may be handled with more safety and may be exposed to wind and gusts from below, and may be moved downward through the air with more rapidity. A good way to make the extension wick-safe I J be sure to reach the bottom is to draw it out a little, and then, as the top is screwed down, it compels it to contract just enough and no more.

I claim as my invention—

1. The guide K arranged in the body of the lamp adjacent to the filling-hole L, and adapted to guide the float M *m*, as and for the purpose specified.

2. The bright cap *m* on the float M, so mount-

ed in a lamp as to be conspicuously seen in looking down into the filling-hole L and to warn when the filling is nearly completed, as shown.

3. The perforated cylinder B in the hollow stock or shaft of the lamp, arranged as shown, so as to receive air freely below and discharge it gently into the space around; to be thence conducted upward, through the annular space C, to the burner, all as herein set forth.

In testimony whereof I have hereunto set my name in presence of two subscribing witnesses.

WILLIAM SCARLETT.

Witnesses:

WILLIAM SHEPARDSON,

J. F. GALE.

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