C. F. A. HINRICHS & R. KNOPP.

Argand Lamps.

No. 134,281. Patented Dec. 24, 1872.

Fig. 1.

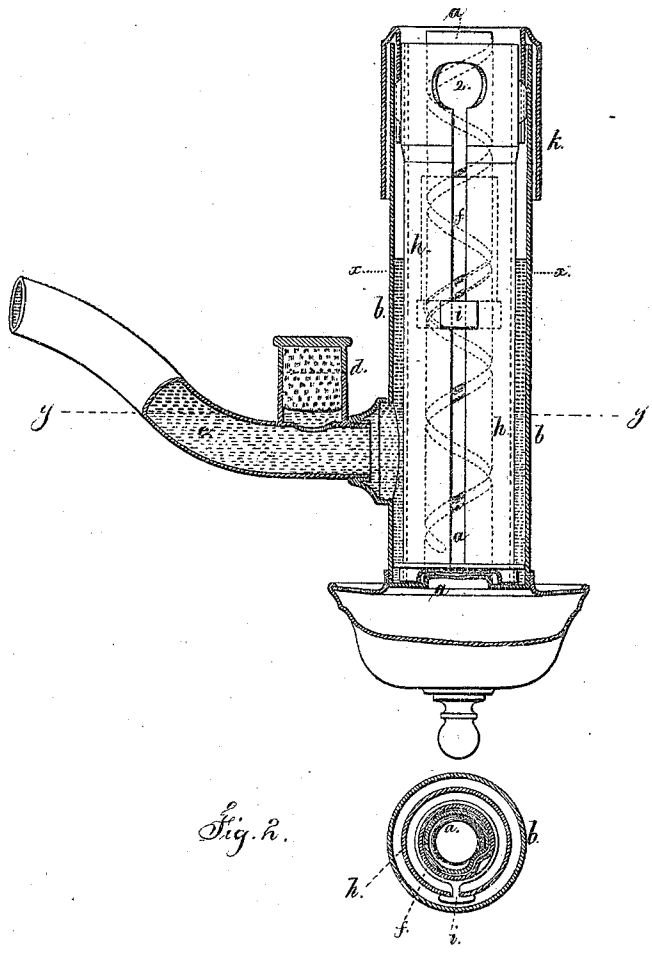


Fig. 2.




Witnesses,

Chas. H. Smith

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Inventors

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# UNITED STATES PATENT OFFICE.

CHARLES F. A. HINRICHS, OF BROOKLYN, AND RUDOLPH KNOPP, OF NEW YORK, N. Y., ASSIGNORS TO SAID HINRICHS.

## IMPROVEMENT IN ARGAND LAMPS.

Specification forming part of Letters Patent No. 134,281, dated December 24, 1872.

*To all whom it may concern:*

Be it known that we, CHARLES F. A. HINRICHS, of Brooklyn, Kings county, and RUDOLPH KNOPP, of the city of New York, both in the State of New York, have invented an Improvement in Argand Lamps, and the following is declared to be a correct description of the same.

In Argand lamps that are supplied from an elevated fountain, a danger sometimes arises from the oil becoming too highly heated, and the tube leading to the fountain conducting heat toward the same, so as to generate vapors. We prevent this by introducing water into the lower portion of the wick-tube in such a manner as to separate the petroleum that is being consumed through the wick and that in the reservoir, but said water allows the coal-oil to pass through the same gradually to replace that which is consumed. In many Argand burners there is a risk of the thimble upon which the wick is placed becoming separated from the tube that is employed for revolving the same, and screwing it up or down upon the threaded air-tube. In this case it becomes difficult to elevate said thimble from the bottom of the wick-tube. We prevent this by making a head upon the pin that passes through the slotted tube employed for revolving the same, and the slot in this tube is closed, both at the top and bottom, and an enlargement is provided in the slot to allow the head of this pin to pass through.

In the drawing, Figure 1 is a vertical section, and Fig. 2 is a sectional plan of the wick-tube and thimble at the line *x x*.

*a* is the central air-tube united at the bottom with the cylinder *b* or wick-tube, so as to form an annular space for the burning-liquid, which is supplied through the tube *c* from an elevated atmospheric fountain. The lower part of this tube or annular space is filled with water up to about the line *y y*, and a screw-plug, *d*, or other suitable stopper, is provided that is removed for introducing the water or for indicating the height to which it is to be filled. As the hydrocarbon liquid runs from the reservoir through the tube *c* it displaces the water sufficiently by its hydrostatic pressure to pass said water and flow up in the oil-space above the water and keep the wick saturated, and this operation takes place from time to time as the fluid is burned up, the water constantly intervening between the oil that is being consumed and that in the reservoir, and in this manner risk of accident is lessened and the reservoir kept cool. The air-tube *a* has a screw upon its exterior surface receiving the screw or stud upon the wick-thimble *f*, so as to be raised or lowered by the revolution of the thimble around said air-tube. The slotted cylinder *h*, connected with the removable chimney-holder *k*, has been used to turn this wick-thimble, but the stud *i* has usually been simply a straight pin, that sometimes slipped out of the slot and became disconnected. We prevent this by making a flat head upon the pin *i* wider than the slot in the tube *h*, so as to prevent the pin drawing out of the slot; and in order to allow of the insertion of the headed pin into the slot, there is an enlargement of the slot in the tube *h*, as shown at 2, Fig. 1, through which the pin *i* is entered before the thimble is inserted over the air-tube. The upper and lower ends of the slot in the tube *h* are closed, so that it is imposible for the thimble-pin *i* to become disconnected when in use.

We claim as our invention—

1. The water-space at the junction of the tubes *c* and *b* for separating, by a non-combustible fluid, the hydrocarbon that is being consumed from that in the supply-reservoir, substantially as set forth.

2. The pin *i* upon the wick-thimble provided with a head, in combination with the slotted tube *h*, having an opening for the head of the pin to pass through, as and for the purposes set forth.

Signed by us this 21st day of February, 1872.

C. F. A. HINRICHS.
RUDOLPH KNOPP.

Witnesses:
GEO. T. PINCKNEY,
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