

J. K. HICKS.

LAMP.

No. 172,923.

Patented Feb. 1, 1876.

Fig. 1.

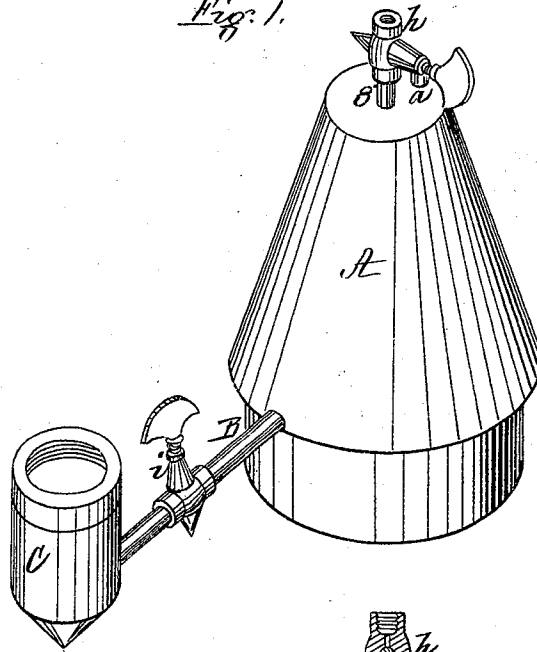
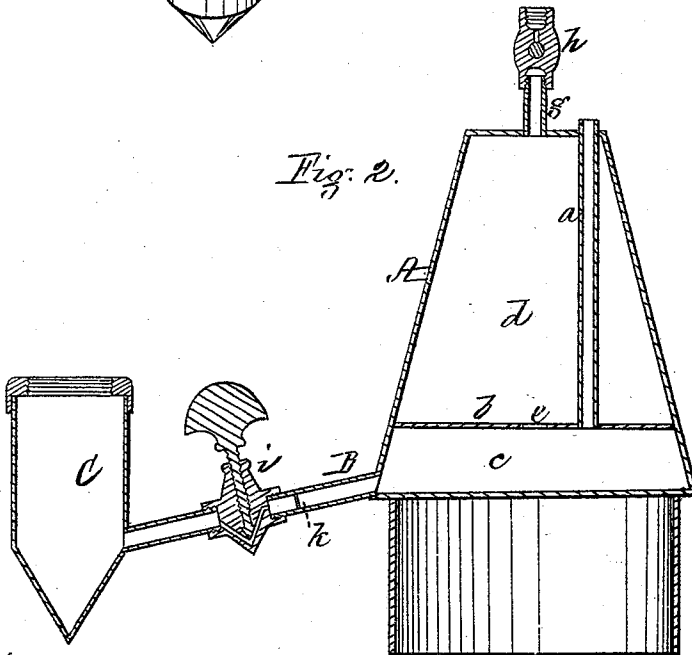


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES K. HICKS, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. **172,923**, dated February 1, 1876; application filed January 17, 1876.

To all whom it may concern:

Be it known that I, JAMES K. HICKS, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Lamps and Chandeliers for Burning Oil, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a lamp constructed in accordance with my invention. Fig. 2 is a vertical section through the center of the same.

My present invention has special reference to that class of lamps having an elevated reservoir for supplying oil to the burner; and consists in an air-tube open at its top and bottom, and extending down inside the reservoir through a partition which is placed at the level at which it is desired to have the oil stand in the oil-cup of the burner, the oil-cup being connected by a supply-pipe with the bottom of the reservoir below the partition, which is provided with one or more apertures, through which the oil poured down the air-tube, after filling that portion of the reservoir below the partition, rises into its upper portion, expelling the air above it through a vent provided with a stop-cock, which must be closed previous to lighting the lamp, by which construction the oil is uniformly and steadily supplied to the wick as fast as consumed, and the oil in the cup prevented from rising above the level of the partition in the reservoir, all danger of overflowing being thus avoided, while at the same time the reservoir may be filled with much greater ease than that of the lamp ordinarily termed the "German Student Lamp," the danger of the oil being spilled in the event of the lamp being upset incident to the construction of the latter being also avoided. My invention also consists in the combination, with the above, of a stop-cock applied to the pipe connecting the reservoir with the oil-cup of the burner, whereby the overflow of the oil is prevented, while the vent of the reservoir is open to allow of its being filled. My invention also consists in placing a partition of wire-gauze in the pipe leading from the reservoir to the oil-cup of the burner, by which the oil in the cup is prevented from being

suddenly agitated, and the smoking of the lamp when carried around is thereby avoided.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents the reservoir, of the form shown, which is connected by an inclined pipe, B, with an oil-cup, C, into which the burner is to be screwed. *a* is a vertical tube, open at its top and bottom, and extending down within the reservoir through a partition or diaphragm, *b*, which divides the reservoir into two separate and distinct chambers, *c d*, which communicate with each other through an aperture, *e*, at or near the center of the partition, the partition serving to prevent the transmission of any disturbing movement in the oil in the upper portion of the reservoir to that in the lower portion, which would affect the uniform flow of the oil and cause the lamp to smoke. If desired, the partition *b* may be provided with two or more apertures, or may be made of wire-gauze. The oil is supplied to the reservoir through the air-tube *a*, first entering and filling the lower chamber *c*, and then flowing up through the aperture *e* into the upper chamber *d*, the air in the reservoir above the oil being expelled through a vent-tube, *g*, provided with a stop-cock, *h*, which must be closed after the oil has been introduced. The supply-pipe B, leading from the reservoir A to the oil-cup C, is provided with a stop-cock, *i*, which closes the passage in the pipe and prevents the oil from overflowing when the vent *g* is open during the operation of filling the reservoir. This cock *i* is intended to be closed when the lamp is to be moved from place to place, as it prevents the oil in the cup from being agitated, which would cause the lamp to smoke; and to prevent this smoking in the event of neglect to close the stop-cock, I provide the supply-pipe B with a partition, *k*, of wire-gauze, which checks the sudden vibration of the oil. The bottom of the lower chamber *c* is inclined down to the point where the supply-pipe B enters, by which means the complete draining of the reservoir is insured, and a supply of oil is left in the oil-cup after the reservoir has been emptied. The tube *a*, beside performing

the office of a supply-tube for the reservoir, also allows the air to enter and pass up through the oil to the top of the chamber *d*, so as to fill the space above the oil as fast as it descends in its passage to the burner, whereby a constant and uniform supply of oil to the wick is insured, and the oil in the cup C prevented from rising above the level of the partition *b* or bottom of the air-tube *a*, the inconvenience and delay incident to the filling of the reservoir of the ordinary student lamp and the liability of spilling the oil when upset being also avoided. Instead of one oil-cup, C, as shown, two or more may be connected with the same reservoir and used as a chandelier, if desired.

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

The reservoir A, with its tube *a*, partition *b*, having one or more apertures, *e*, and vent *g*, controlled by a stop-cock or other device, in combination with the supply-pipe B and oil-cup C, all constructed and operating substantially as and for the purpose described.

Witness my hand this 14th day of January, A. D. 1876.

JAMES K. HICKS.

In presence of—

N. W. STEARNS,
P. E. TESCHEMACHER.