

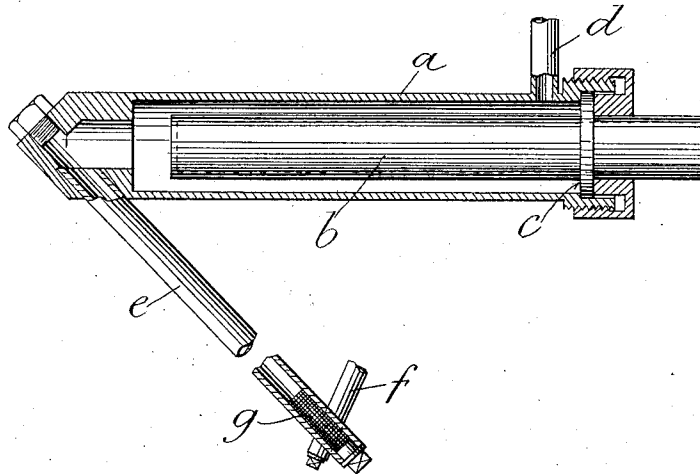
A. G. ADAMSON & A. J. D. KITSON.

VAPOR BURNING LAMP.

APPLICATION FILED MAR. 16, 1912.

1,058,516.

Patented Apr. 8, 1913.



Witnesses:
John Smith
B. D. Bridges

Inventor:
Andrew George Adamson
Arthur James Douglas Kitson
B. Davis & Davis
Attorneys

UNITED STATES PATENT OFFICE.

ANDREW GEORGE ADAMSON AND ARTHUR JAMES DOUGLAS KITSON, OF LONDON,
ENGLAND.

VAPOR-BURNING LAMP.

1,058,516.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed March 16, 1912. Serial No. 684,088.

To all whom it may concern:

Be it known that we, ANDREW GEORGE ADAMSON and ARTHUR JAMES DOUGLAS KITSON, subjects of the King of Great Britain and Ireland, residing, respectively, at London, England, have invented Improvements in Vapor-Burning Lamps, of which the following is a specification.

This invention has reference to means for vaporizing oils in connection with vapor burning lamps, the object being to cause the less volatile constituents of the vapor to be deposited before the vapor reaches the nipple of the vapor burner so that clogging thereof is prevented.

According to this invention, the oil vapor passes through a passage between two walls, one of which is heated by the flame or products of combustion from the burner beneath it and the other of which is maintained at a lower temperature by exposure of its surface to the atmosphere. Usually the passage is annular the walls being constituted by concentric tubes and the vaporization of the oil is effected in part of said passage but it is essential that the heated wall and the cooler wall should be sufficiently extended to insure that vapor (as distinguished from oil) comes in contact with both of said walls as otherwise the cooler wall will simply act to retard the flow and vaporization of the liquid instead of serving to eliminate the less volatile constituents of the vapor; it is also essential that the cooler wall shall be freely exposed to the atmosphere as if the air is not free to move away from the wall and thus quickly withdraw heat from it the wall will not be sufficiently cool to condense the constituents it is desired to eliminate from the vapor.

The drawing shows in section such an arrangement wherein the vaporizer comprises a horizontal tube *a* of large diameter having fitted within it another tube *b* the external diameter of which is slightly less than the internal diameter of the outer tube; the inner tube *b* is open to the atmosphere at its outer end and closed at its inner end which does not extend to the end of the outer tube *a*. A tight joint is made be-

tween the two tubes at *c* near the outer end and the outer tube *a* has a small inlet branch *d* for oil at this end. It is found that such a vaporizing arrangement can be used for a considerable time without the passage or the nipple of the burner becoming clogged, the less volatile constituents of the oil becoming deposited on the surface of the cooler wall or tube instead of passing on to the gas nipple and condensing there as the vapor expands. The deposit can be removed from the tube *b* at intervals, the tubes being separable at the joint *c* for this purpose.

A downwardly extending tube *e* of small bore extends from the tube *a* and has projecting upwardly from near its lower end a feed tube *f* of still smaller bore which leads to the vapor nipple. In passing through the tubes *e* and *f* the vapor becomes superheated.

g is a gauze filter which projects some distance toward the tube *a* and tends to cause condensation of the less volatile constituents of the vapor which may not have been deposited on the inner tube. The filter if used may be of any desired kind and separable to facilitate cleaning.

What we claim is:—

In a vapor burning lamp, the combination of a vapor burner and a vaporizer subjected to the heat thereof and comprising two tubes arranged one within the other and connected toward one end, the inner of said tubes having its end remote from said connection closed and its other end open to the air, an oil inlet to the space between them near said open end, and a vapor outlet toward the other end, the arrangement being such that vapor comes in contact with both said tubes and the cooler serves to eliminate by condensation on its surface the less volatile constituents of the vapor.

Signed at London, England, this fifth day of March 1912.

ANDREW GEORGE ADAMSON.
ARTHUR JAMES DOUGLAS KITSON.

Witnesses:

JAMES WILLIAMS,
DAVID CORRY.