

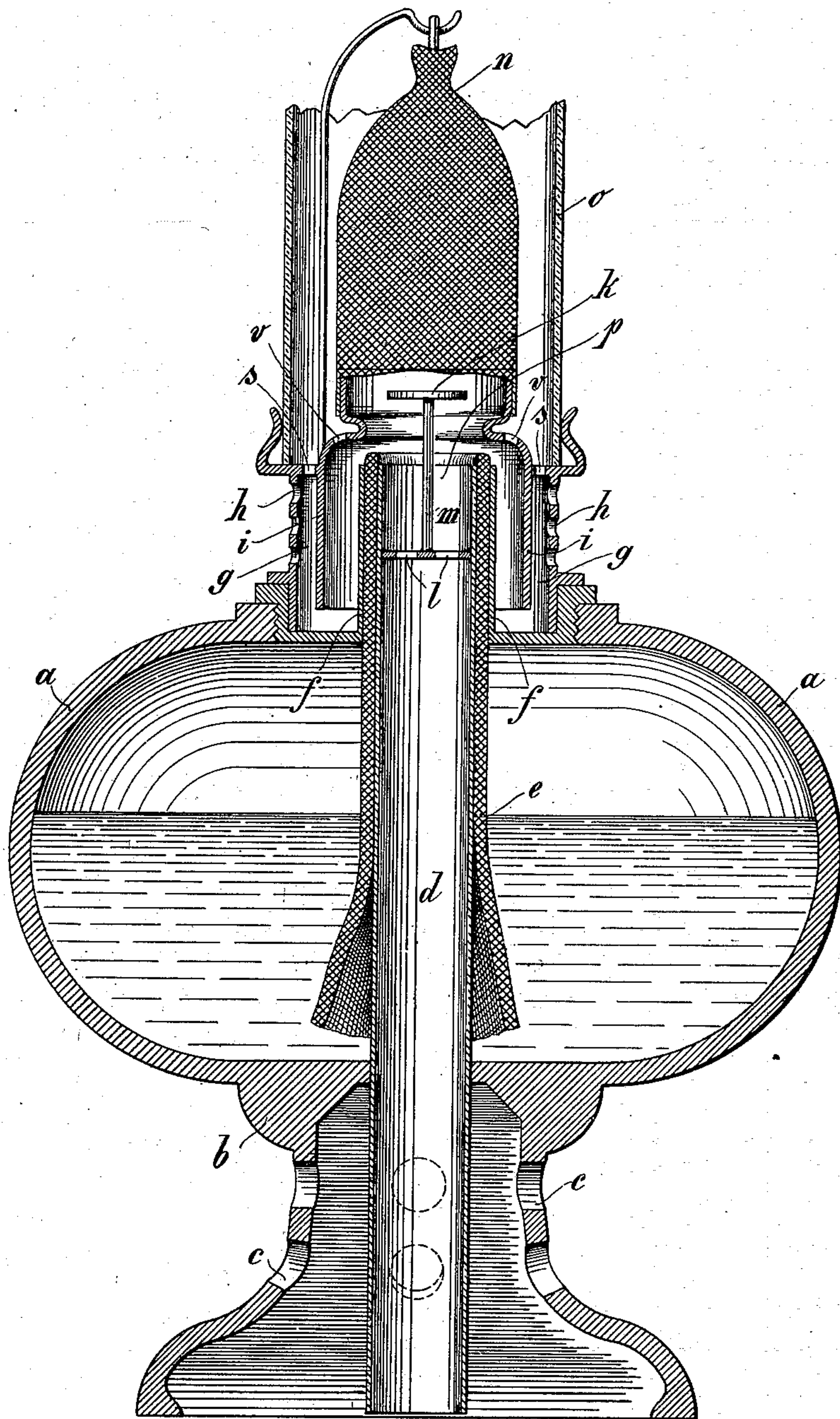
No. 651,925.

Patented June 19, 1900.

K. LEHMANN.
SPIRIT INCANDESCENT LAMP.

(Application filed July 5, 1899.)

(No Model.)



WITNESSES

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UNITED STATES PATENT OFFICE.

KARL LEHMANN, OF WILMERSDORF, GERMANY.

SPIRIT INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 651,925, dated June 19, 1900.

Application filed July 5, 1899. Serial No. 722,848. (No model.)

To all whom it may concern:

Be it known that I, KARL LEHMANN, a subject of the Emperor of Germany, and a resident of Wilmersdorf, near Berlin, in the Province of Brandenburg, Germany, have invented certain new and useful Improvements in Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters of reference marked thereon, which forms a part of this specification.

Various attempts have heretofore been made to employ spirit as a combustible material for incandescent lamps, but up to now thoroughly satisfactory results have not been attained because considerable obstacles have presented themselves—on the one hand the volatility of this combustible material and on the other the difficulty of obtaining the blue flame. The desired result is attained according to this invention by the combination of a set of elements without the employment of an auxiliary flame or pump and by means of a simple wick-flame lamp.

The accompanying drawing is a vertical section of an example of a lamp constructed according to this invention.

The liquid-receptacle *a* is fixed to a pedestal *b*, which has in it air-holes *c*. An air-tube *d* passes through the receptacle from top to bottom, one end of it projecting into the pedestal *b*, while the other end forms the burner-head *p*. The wick *e* is guided between the tube *d* and a guiding-cylinder *f*. The burner-casing *g* is of special construction. In the outer wall of the casing there are air-supply holes *h*, through which the air passes into the interior of the casing. Here it impinges against a partition *i*, which compels the air to flow downward and then to ascend between it and the guiding-cylinder *f* in order then to impinge on the flame of the wick *e*.

Over the orifice of the wick *e*, and therefore at the spot where the wick-flame originates, the burner-casing is provided with a contraction *r*, which concentrates the flame in such a manner that the stream of air that is conducted upward by the tube *d* impinges directly upon the flame. The object of the open-

ings *v* is to separate off a portion of the vapors generated at the top of the wick, and as these are extremely hot they assist in maintaining the incandescence of the mantle. In addition there are openings *s* in the top plate of the casing, through which the air flows upward between the chimney *o* and the mantle *n*, and the flame is extended by the suction of this current of air. The flame itself is pressed out to a certain extent and kept extended by a spreader *k*, which is fastened to a perforated plate *l* by a rod *m*. The incandescent mantle *n* and the chimney *o* are arranged above the wick-flame in the usual manner.

The operation of the lamp is as follows: There is in this case no mixture at all of spirit-vapor and air for the purpose of producing a blue flame, but the regular liquid-flame, or rather wick-flame, is changed, owing to the access to it of a considerable quantity of air at a high velocity into an extremely-hot blue flame.

It is advisable in this lamp to employ a chimney which is at first cylindrical and then becomes slightly conical in order to give the flame the exact shape of the incandescent mantle.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent of the United States of America, is—

In combination, the lamp-body, the central air-tube passing through the same, and terminating a short distance above the lamp-body, and the burner-casing having an outer perforated wall, an inner wick-guide, and an intermediate annular partition supported from said outer wall and terminating above the bottom of said casing, said annular partition curving inward in proximity to the flame-point and having perforations in said inwardly-curved portion, and perforations between the partition and outer wall substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

KARL LEHMANN.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.