

(No Model.)

S. SIEMANG.
HYDROCARBON LAMP.

No. 403,151.

Patented May 14, 1889.

Fig. 1

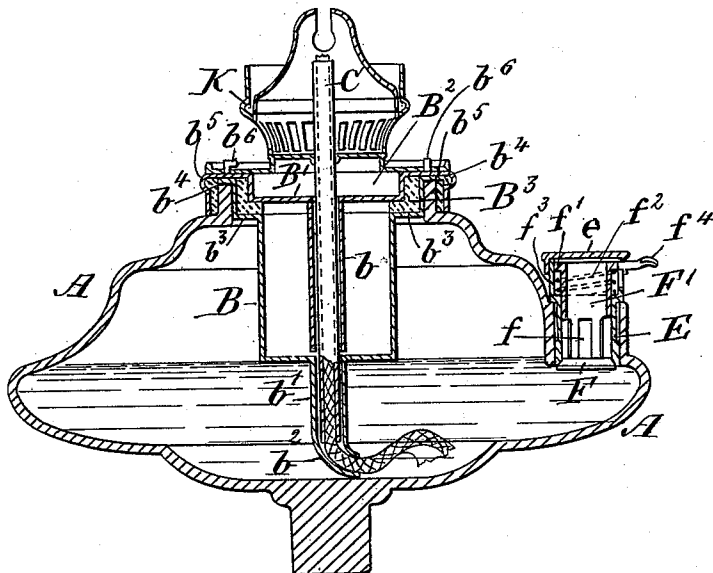
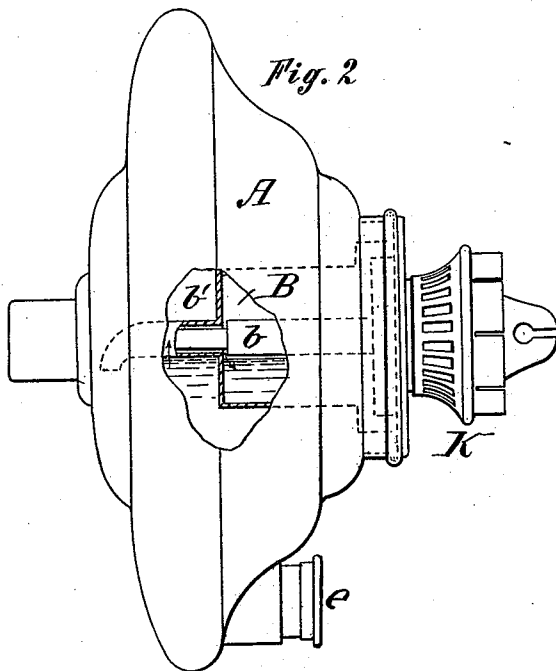


Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE.

STEFAN SIEMANG, OF VIENNA, AUSTRIA-HUNGARY, ASSIGNOR OF ONE-HALF TO ADALMAR BREDEN, OF SAME PLACE.

HYDROCARBON-LAMP.

SPECIFICATION forming part of Letters Patent No. 403,151, dated May 14, 1889.

Application filed January 12, 1888. Serial No. 260,574. (No model.) Patented in France January 16, 1886, No. 173,576; in Belgium January 16, 1886, No. 71,660; in Germany May 14, 1887, No. 42,424, and in England June 1, 1887, No. 7,956.

To all whom it may concern:

Be it known that I, STEFAN SIEMANG, a subject of the Emperor of Austria-Hungary, residing at Vienna, in the Province of Lower Austria, in the Empire of Austria-Hungary, have invented certain new and useful Improvements in Hydrocarbon-Lamps, (for which I have obtained Letters Patent in Germany, dated May 14, 1887, No. 42,424; in England, dated June 1, 1887, No. 7,956; in France, dated January 16, 1886, No. 173,576, and in Belgium, dated January 16, 1886, No. 71,660;) 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 drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Referring to the drawings, Figure 1 is a vertical section; and Fig. 2, an elevation, a part of the oil-fount being broken away to show some of the interior parts thereof, which parts are shown in section.

The invention relates to lamps for burning hydrocarbon oils, in which either a flat or cylindrical wick-tube may be used.

The invention has for its object to prevent the oil from flowing out of the fount through the wick-tube or wick-sheath in case the lamp is accidentally overturned.

It will be readily understood that when a lamp provided with a fount or oil-reservoir of a given capacity and with a wick-tube projecting axially into said fount is only half filled with oil, when such a lamp is overturned, the wick-tube will not be immersed in the oil; hence no oil can flow out of said wick-tube.

If the filling-aperture of the oil-fount is located at or near the upper portion of the reservoir, as has been the custom heretofore, in order that said reservoir may as near as possible be completely filled, the end aimed at could not be attained, as it would be impossible to determine without special means when such reservoir is half-full, unless said reservoir is of a transparent material, and, on the other hand, but few people would pay proper

attention to the filling of the lamp when the reservoir is made of a transparent material.

The object of my invention is, however, fully attained by so locating the filling-aperture that the fount can only be half filled. To this end I provide the fount with a filling-aperture in a plane that will so divide said fount that the lower portion, which serves to hold the oil, will not be of greater capacity than the upper portion, to which the wick-tube is secured, so that when the lamp is brought from a vertical to a horizontal position or upset no oil will flow out of the wick-tube, since the latter will not be immersed in the oil. I provide, however, further safeguards by making the wick-tube of such a length as to come into close proximity to the bottom of the fount, also by inclosing the wick-tube in a sheath or casing and providing means for returning to the fount any unconsumed oil that may flow over the end of the wick-tube.

In the drawings, A indicates the oil fount or reservoir of a lamp, which may be made of any desired material, and which I preferably make of glass.

Within the reservoir A is suspended a sheet-metal casing, B, in the upper wall or cover of which is secured a tube, *b*, open at both ends and terminating a short distance from the bottom of the casing, in which bottom is also secured a like tube, *b'*, that terminates a short distance from the bottom of the oil-fount A. These tubes *b* and *b'* serve as a sheathing for the wick-tube C, which latter is not made to fit tightly into said tubes *b* and *b'*.

The lower end of the tube *b'* is curved laterally, so that a wick of greater length than the wick-tube C may be used and readily passed into the oil-fount, the curved portion of the tube *b'* guiding the wick into the fount, which would not be the case were said tube *b'* to stop short close to the bottom of the fount, as the wick end would then crowd on the bottom, and its passage to the fount below tube *b'* made very difficult, if not impossible.

In a lamp in which the wick-tube is made

to project into close proximity to the bottom of the oil-fount no gases can have access to said wick-tube and to the flame, since the lower end of the tube is immersed in the oil until the oil is almost entirely exhausted, thereby avoiding all danger of explosion from this source.

The casing B, as shown in Fig. 1, is constructed with a shoulder, b^3 , and a horizontal flange, b^4 , that is seated upon the upper face of the neck of the reservoir A, the top B' of said chamber B being similarly constructed, its horizontal flange b^5 being cemented to the like flange b^4 of the body of the chamber B and securely connected with the neck of the reservoir A. As shown, the top B' of the chamber B is constructed, has a recessed portion, B^2 , that surrounds the wick-tube C, said recessed portion performing the function of a drip-cup to receive the oil flowing over the upper end of the wick-tube, which oil returns to the fount by flowing through tube b into casing B, and thence through tube b' into the fount. By curving the lower end of the tube b' , as described, no special devices need be provided to support the wick-tube C therein, as said tube cannot slide down below the curved portion, as will be readily understood.

In order to form a tight joint between the casing B and its top, I interpose between them a packing of asbestos, B^3 , though this is not necessary when the top B' forms an integral part of the casing. To the flange b^5 of the top B' of casing B are pivoted headed locking-studs b^6 , by means of which the burner K is secured to the fount, said burner being provided with suitable slots for the passage of the studs b^6 , when the heads thereof are positioned to register with said slots.

In lamps constructed as described and provided with a special filling-aperture the burner and wick-tube need not be moved, except when a fresh wick is to be inserted, and this may be readily done by removing the burner or burner-cap and withdrawing the tube C from its inclosing-tubes b and b' , and returning the same into their proper places after the wick has been inserted into its tube. Should the lamp be overturned while the wick-tube is removed, no oil can flow out, since the mouth of the tube b' will not be below the level of the oil, while such oil as may be remaining in said tube will flow into the casing B.

To allow the gases evolved in the lamp to escape, the reservoir may be provided with a suitable vent at any desired point above the level of the oil and sufficiently remote from the burner to prevent the ignition of the escaping gases, and said vent may be provided with a check-valve opening inwardly to prevent the oil from flowing out of the vent in case the lamp is accidentally upset.

The filling-tube may be formed integral with the reservoir A, as shown in Fig. 1, or said tube may be secured in a suitable aperture

formed in the body of the reservoir at the proper level.

Any suitable means may be employed for closing the filling-aperture. In Fig. 1 I have shown a valve-casing, E, whose upper part is enlarged and which casing is fitted within the filling aperture or tube, said casing being provided with a suitable cover, e , and having at its lower end a conical valve-seat for a cone-valve, F. The valve F is attached to a tubular valve-stem, F', that has a flange, f' , at its upper end, by which it is guided in the enlarged portion of the valve-casing, a coiled spring, f^2 , being arranged in the annular space formed by the enlarged portion f^3 of said casing, said spring acting upon the flange of the valve-stem F' to hold the valve F to its seat. The lower portion of the valve-stem F' has ports f for the passage of the oil when the valve-stem is pushed down against the stress of its spring to move the valve off its seat. To facilitate this latter operation, the valve-stem is provided with a thumb-piece, f^4 , that projects through a slot in the valve-casing.

The valved filling devices just described may be used with a lamp provided with a separate gas-vent, or such vent may be combined with the valve.

The particular means employed to prevent the escape of the oil through the filling-aperture when the lamp is upset is immaterial, so long as the aperture is so arranged that the oil-fount can only be half filled.

I do not desire to claim, broadly, a wick-tube extending axially into the fount and terminating near the bottom thereof, or such a wick-tube having its end curved upwardly, as these have been used before.

Having now described my invention, what I claim is—

1. In a hydrocarbon-lamp, the combination, with the oil-fount and a wick-tube projecting axially into the fount and terminating in close proximity to the bottom thereof, of a filling-aperture located in a plane dividing the fount horizontally, so that the capacity of the portion below said plane will not exceed the capacity above the same, substantially as and for the purpose specified.

2. In a hydrocarbon-lamp, the combination, with the oil-fount and a wick-tube projecting axially into the fount and terminating in close proximity to the bottom thereof, and having its lower end curved laterally, as shown, of a filling-aperture located in a plane dividing the fount horizontally, so that the capacity of the portion below said plane will not exceed the capacity above the same, substantially as and for the purpose specified.

3. In a hydrocarbon-lamp, the combination, with the oil-fount, a wick-tube, and a wick-tube sheath extending close to the bottom of the fount, said sheath being formed of two tubes so arranged as to form a hiatus between them, of a filling-aperture located in a plane dividing the fount horizontally, so that

the capacity of the portion below said plane will not exceed the capacity of the portion above the same, substantially as and for the purpose specified.

5 4. In a hydrocarbon-lamp, the combination, with the oil-fount, a wick-tube, and a wick-tube sheath extending close to the bottom of the fount, said sheath being formed of two
10 tubes communicate, of a filling-aperture located in a plane dividing the fount horizontally, so that the capacity of the portion below said plane will not exceed the capacity of the portion above the same, substantially as
15 and for the purpose specified.

5 5. In a hydrocarbon-lamp, the combination, with the oil-fount, of the casing B, the open-ended tubes *b* and *b'*, connected therewith, as described, and the wick-tube C, fitted loosely
20 in said tubes *b* and *b'*, of a filling-aperture located in a plane dividing the fount horizontally, so that the capacity of the portion below said plane will not exceed the capacity of the portion above the same, substantially
25 as and for the purpose specified.

6. In a hydrocarbon-lamp, the combination, with the oil-fount, of the casing B, having a recess formed in its top or cover, the open-ended tubes *b* and *b'*, connected therewith, as
30 described, and the wick-tube C, fitted loosely in said tubes *b* and *b'*, of a filling-aperture located in a plane dividing the fount horizontally, so that the capacity of the portion below said plane will not exceed the capacity

of the portion above the same, substantially as and for the purpose specified. 35

7. In a hydrocarbon-lamp, the combination, with the oil-fount and the wick-tube, of a wick-tube sheath comprising two open-ended tubes and a closed chamber with which said
40 tubes communicate, said chamber having a recessed or cupped top or roof surrounding the wick-tube, substantially as and for the purpose specified.

8. In a hydrocarbon-lamp, the combination, 45 with the oil-fount and the wick-tube, of a wick-tube sheath comprising a casing whose top plate is recessed or cupped, a tube extending axially into said casing to near the bottom thereof, and a tube projecting from
50 the bottom of said casing, substantially as and for the purpose specified.

9. In a hydrocarbon-lamp, the combination, with the oil-fount and the wick-tube, of a wick-tube sheath comprising a casing whose
55 top plate is recessed or cupped, a tube extending axially into said casing to near the bottom thereof, and a tube projecting from the bottom of the casing and terminating near the bottom of the fount, said tube hav-
60 ing its lower end bent laterally, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

STEFAN SIEMANG.

Witnesses:

EDMUND JUSSEN,
OTTO SCHIFFEN.