(No Model.) 2 Sheets—Sheet 1.

S. M. MEYER.

ELECTRICAL IGNITING DEVICE FOR LAMPS.

No. 590,497. Patented Sept. 21, 1897.

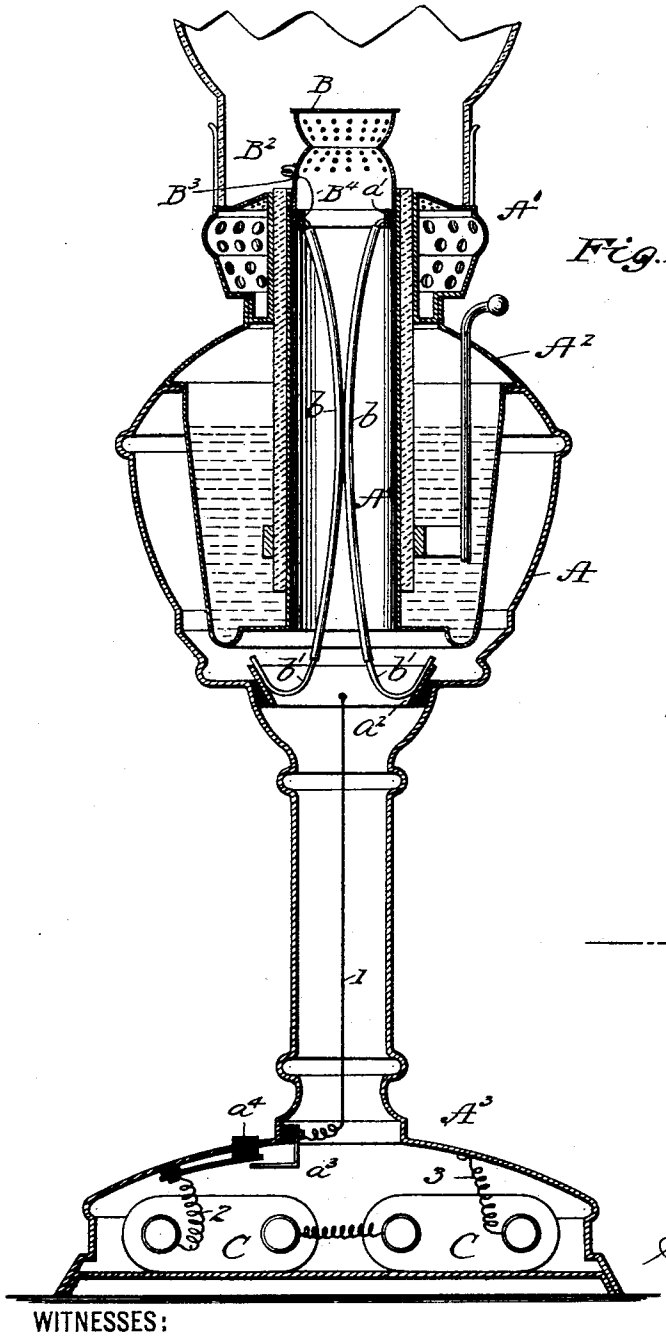
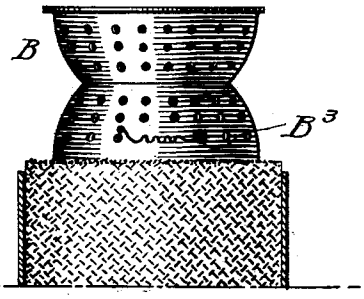


Fig. 1.

Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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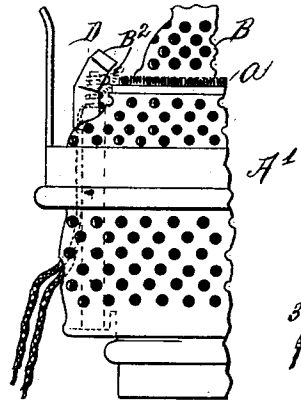
Fig. 5.



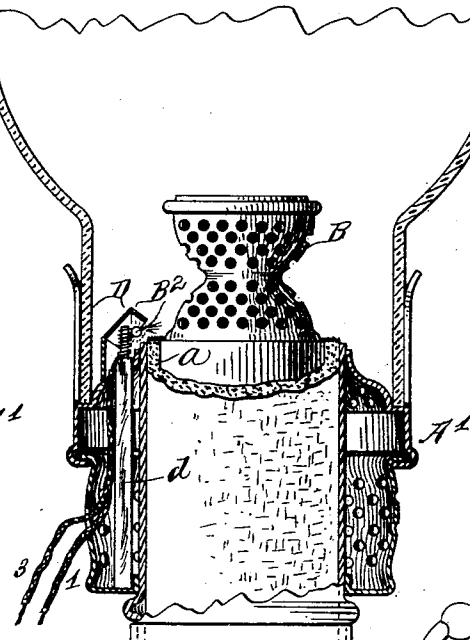


Fig. 7.

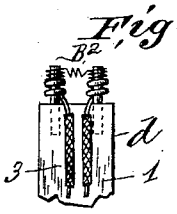


Fig. 6.

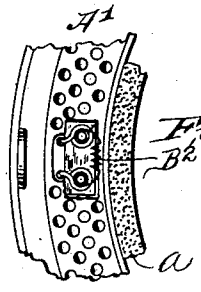
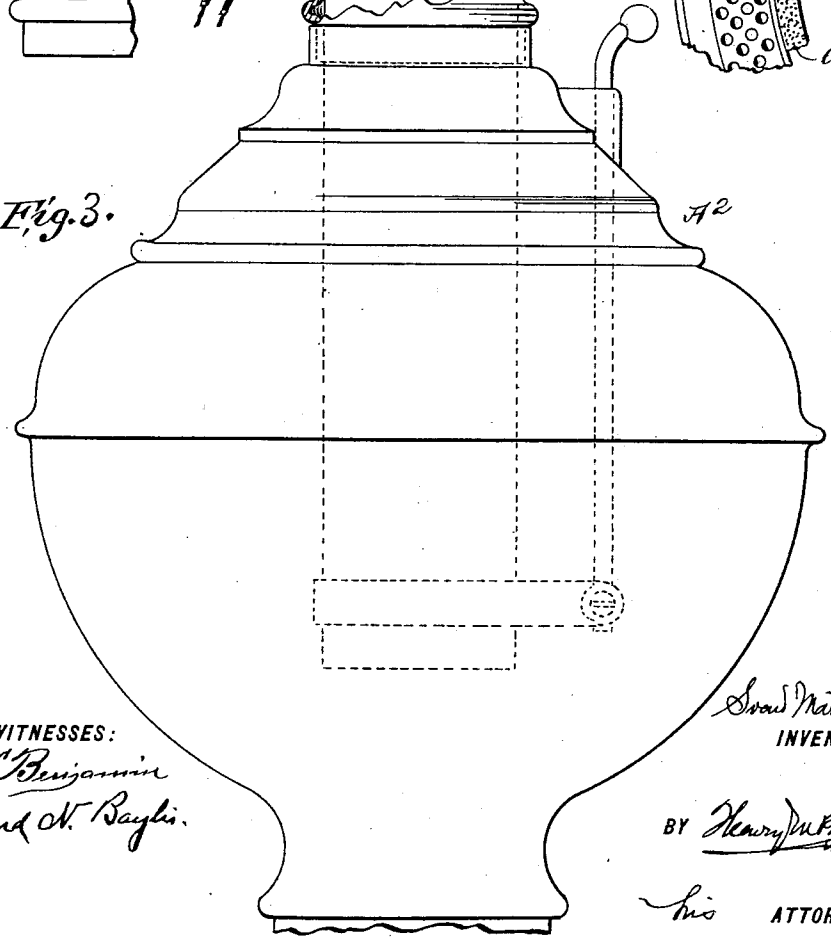


Fig. 3.



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UNITED STATES PATENT OFFICE.

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ELECTRICAL IGNITING DEVICE FOR LAMPS.

SPECIFICATION forming part of Letters Patent No. 590,497, dated September 21, 1897.

Application filed April 27, 1895. Serial No. 547,425. (No model.)

To all whom it may concern:

Be it known that I, SVEND MARTIN MEYER, a citizen of the Kingdom of Denmark, and a resident of the city of Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Mechanism for Lighting Oil-Lamps by Electricity, of which the following is a specification.

My invention relates to electric-lighting mechanism for oil-lamps, the object being to provide a simple electrical mechanism for this purpose portable with the lamp.

The invention consists, primarily, in a high-resistance electrical conductor located adjacent to the upper end of the wick capable of being heated to incandescence by passing through it a current from an electrical battery.

The invention further consists in the construction and novel arrangement of parts, as will hereinafter be described, and more particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a vertical section of a central-draft lamp embodying my improvement. Fig. 2 is a section, on an enlarged scale, of a portion of a burner, partly in section, showing my improvement. Fig. 3 is an elevation of an oil-fount and a vertical section of a burner, showing a modification of my invention. Fig. 5 is a side elevation of a portion of said burner shown in Fig. 3. Fig. 6 is a plan view thereof, and Fig. 7 shows the high-resistance electrical conductor.

Referring to the example of my improvement shown in Figs. 1 and 2, A designates a central-draft lamp comprising a burner A′, an oil-fount A^2, a hollow base and post A^3, and the inner wick-tube A^4, which also serves as a central draft-tube and communicates with the hollow base and post A^3.

At the upper end of the central draft-tube A^4 is a perforated air distributer or thimble B. A high-resistance electrical conductor B^2 is soldered at one end or otherwise electrically connected to the thimble B. The other end thereof passes through the insulator B^3, which is placed in the thimble B, and into the interior of said thimble B, where it is connected with a lead or wire B^4, which is attached to a metal ring a', which is securely fastened to the base of the thimble B, but is insulated therefrom. From the said insulated ring a' and electrically connected thereto metal springs b extend downwardly through the inner wick-tube of the fount. The sides of these springs or leads are preferably covered with insulating material in order that they may not come in electrical contact with the inner wick-tube. They are provided with outwardly-curved resilient contact ends b', which are brought into electrical contact with the ring a^2, located in but insulated from the upper portion of the hollow post A^3, whenever the fount is placed in position in the lamp.

From the insulated ring a^2 a wire 1 leads to a contact-point a^3, insulated from but connected to the base of the lamp from one of the poles of an electric battery C, located preferably in the base of the lamp. A wire 2 leads to the contact-key a^4. From the other pole of the battery a wire 3 leads to the base of the lamp and is electrically connected thereto.

It is to be understood that the several leads or wires are to be insulated excepting at their contact-points.

In the lamp I have just described the fount A^2 is removable from the lower portion of the lamp and the segmental contacts b' are provided; but in other forms of central-draft lamps where the fount is not removable the leads may extend directly from the battery to the high-resistance conductor.

In Fig. 3 I have shown a modified form of my invention. In this modified form the high-resistance electrical conductor is located outside of the outer wick-tube upon the chimney-gallery and the lead-wires 1 and 3 extended outward through the burner-shell and down the outer side of the lamp to the battery, the circuit being, as before, broken by an electrical push-button. In this modification of my invention I have placed the high-resistance electrical conductor within a chamber D, which extends upward from the chimney-gallery and is adjacent to the wick of the lamp.

In operation the circuit is closed and the high-resistance electrical conductor B^2 instantly becomes heated to incandescence and

gas is generated from the upper or charred portion of the wick. The air-distributer B, the chimney-gallery, and the chimney inclose the apparatus and prevent currents of air from driving the gas so generated away from B^2, as would be the case if the apparatus were in the open air. There is, however, a slight current of air, even when the lamp is cool, up through the inner wick-tube and out through the perforations in the air-distributer B. This current is met by a counter-current which passes up through the perforations in the chimney-gallery, and both serve to hold or retain the generated gas in a sufficiently compact mass so that the same may be ignited and in turn ignite the wick.

I have described a lamp with a perforated thimble which entirely fills the upper end of the inner wick-tube; but I do not desire to be limited to a lamp using an air-distributer of this description, as my device will operate almost equally as well with any other form of air distributer or deflector.

My device will also operate with the ordinary flat-wick burner, the burner and chimney forming the chamber.

In the modified form of my invention shown in Fig. 3 the gas generated is collected in the chamber which surrounds B^2 and is there retained until a sufficient quantity has been collected to permit the same to be ignited, when it ignites and in turn ignites the wick. The chamber also serves as a shield to protect the mechanism, which is delicate and fragile, from being broken or bent out of shape, as might otherwise be the case through handling or raising or lowering the wick.

In the form of my invention illustrated in Figs. 1 and 2 I have shown the device as attached to the air-distributer. This is important, as it is then possible to remove the mechanism with the thimble bodily from the lamp whenever it is necessary to clean the lamp or to trim the wick, which is usually done in this class of lamps by removing the thimble, raising the wick to a point just above the top of the wick-tubes, and then rubbing it with the finger or a piece of cloth. I have also shown the means of automatically making the electrical connection when the fount is placed in position in the lamp. This is also of importance, as it is frequently necessary to remove the fount in order to fill the same with oil.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a central-draft oil-lamp of a high-resistance electrical conductor located adjacent to the upper end of the wick-tube and attached to and supported by the air-distributer.

2. The combination with a central-draft oil-lamp of a high-resistance electrical conductor located adjacent to the upper end of the wick-tube, one end of such electrical conductor being electrically connected to the air-distributer and the other end passing through the insulating material into the interior of the air-distributer and connected with an electrical lead insulated from the said thimble.

3. The combination with a central-draft oil-lamp of an electrical conductor located adjacent to the upper end of the wick-tube and attached to and supported by the air-distributer and removable therewith from the lamp.

4. The combination with a central-draft oil-lamp of an electrical conductor located adjacent to the upper end of the wick-tube and supported by the air-distributer, one end of such conductor being in electrical connection with such air-distributer and the other insulated therefrom, an electrical conductor extending up through the inner wick-tube of the lamp and means for automatically making the connection between the insulated end of such electrical conducter and the conductor in the inner wick-tube when the air-distributer is placed in position in the lamp.

5. The combination with a central-draft oil-lamp of an electrical conductor located adjacent to the upper end of the wick-tube, one end of such conductor being electrically in connection with the air-distributer located at the upper end of the wick-tube and the other end passing through the air-distributer and down through the interior of the inner wick-tube and electrically connected to one pole of the battery, the other pole of which is electrically connected to the body of the lamp.

6. In a central-draft oil-lamp the combination of a high-resistance electrical conductor located adjacent to the upper end of the wick, one end of which is electrically in contact with the air-distributer and the other end of which passes through insulating material inserted in the air-distributer and a metal band securely fastened to the said air-distributer but insulated therefrom and spring-fingers which automatically complete the electrical connection between the said ring and the insulated ring in the body of the lamp when the fount of the lamp is placed in position in the lamp.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 15th day of April, 1895.

S. M. MEYER.

Witnesses:
MIDDLETON S. BORLAND,
BERTHA A. ITTNER.