

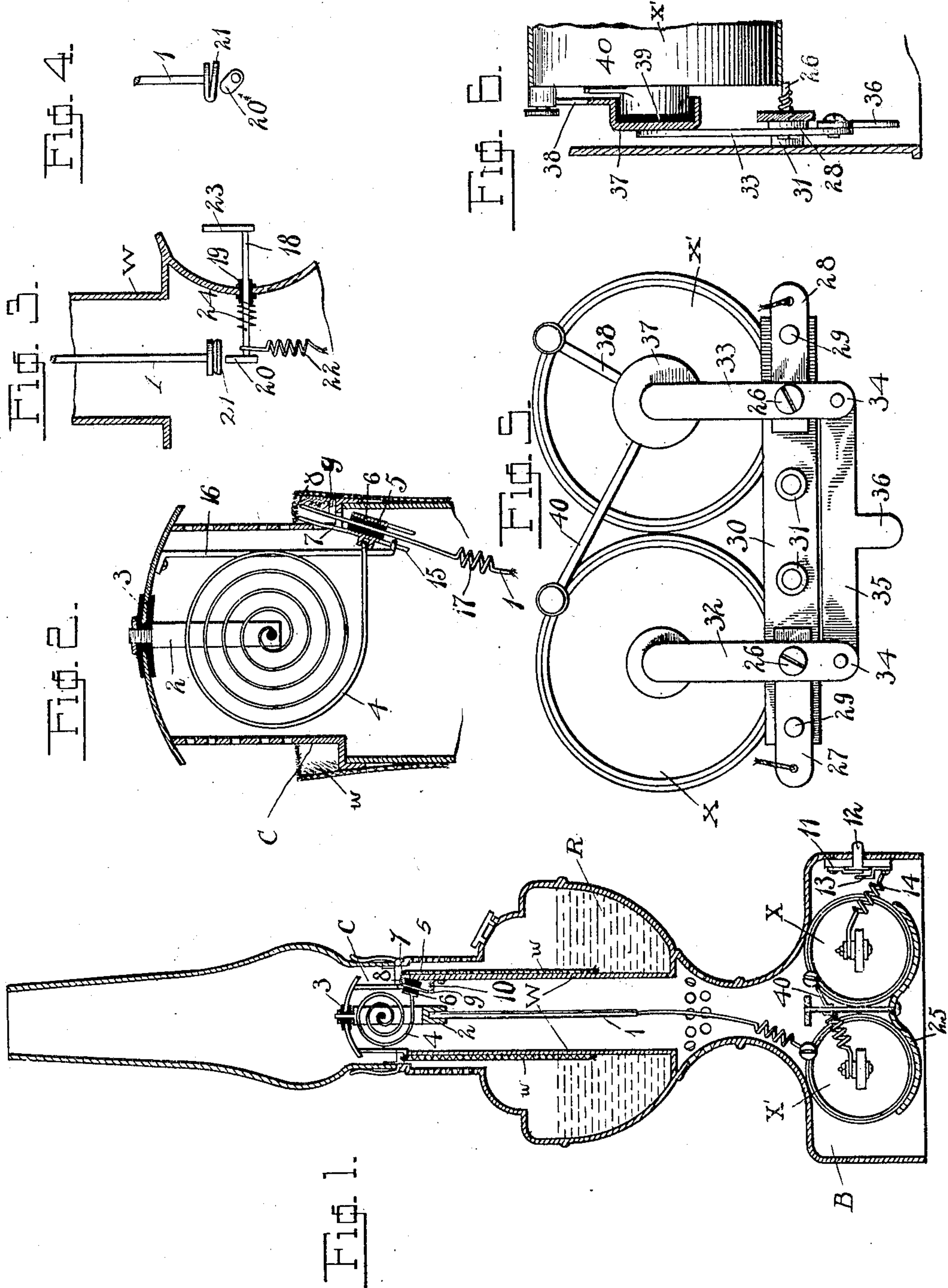
No. 844,731.

PATENTED FEB. 19, 1907.

S. M. MEYER.

SELF LIGHTING ATTACHMENT FOR LAMPS.

APPLICATION FILED NOV. 18, 1904. RENEWED SEPT. 11, 1905.



Witnesses
 S. J. Hoexter
 William Hammond

Inventor
 S. M. Meyer
 By his Attorneys
 Knight Bros

UNITED STATES PATENT OFFICE.

SVEND MARTIN MEYER, OF NEW YORK, N. Y., ASSIGNOR TO GEORGE C. BATCHELLER, OF NEW YORK, N. Y.

SELF-LIGHTING ATTACHMENT FOR LAMPS.

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Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed November 18, 1904. Renewed September 11, 1905. Serial No. 278,037.

To all whom it may concern:

Be it known that I, SVEND MARTIN MEYER, a citizen of the United States, and a resident of the borough of Brooklyn, in the city and State of New York, have invented a new and Improved Self-Lighting Attachment for Lamps, of which the following is a specification.

The subject of my invention is an electrical lighting attachment primarily designed for application to oil-lamps and consisting of an incandescing coil or the like mounted in proximity to the wick in such manner that after it has accomplished its purpose in igniting the wick the heat from the flame will automatically cause the incandescing coil to retire from the flame, so as to be protected against injury therefrom.

My invention relates also to other improvements and details hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional elevation of an oil-lamp with my invention applied. Fig. 2 is a vertical section of the lamp-burner and lighting device, on a larger scale, showing a modification in the manner of mounting the insulated incandescing coil in the battery-circuit and effecting its automatic removal from the flame by the heat of the latter. Fig. 3 is a sectional elevation, also on a larger scale, illustrating a modification in the manually-operated device for closing the electric circuit in order to light the lamp. Fig. 4 is a detail end view of the same. Fig. 5 is an end view, also on a larger scale, of a pair of dry batteries, showing a novel device for retaining the same in position and permitting their ready removal. Fig. 6 is a detail longitudinal section of the same.

Referring to Fig. 1, R represents the reservoir, B the base, and W the wick-tube, of a center-draft oil-lamp of common form.

X X' represent a pair of dry batteries mounted removably in the base of the lamp. From one pole of these connected batteries rises an insulated rod or wire 1, connected at top to a plate or hanger 2, which is mechanically attached at top to the cone or burner C of the lamp-burner through the medium of

an insulating-body 3, of mica or other suitable material.

On the insulated hanger 2 is mounted a wire or ribbon 4 of helical form, made of a suitable metal or alloy, or preferably of two combined strips of metals having different expanding properties, so that the said helix will expand freely under the influence of heat. The outer end of the expanding helix 4 is connected to a metal shell or short tube 5, containing a body 6, of insulating material.

From the shell 5 projects upward a rod 7, supporting one end of an incandescing coil 8, of iridium, platinum, or other suitable metal, adapted to become incandescent by passage of the electric current and to resist oxidation. The other end of the incandescing coil 8 is connected to a rod 9, extending downward through the insulating-body 6, and thereby insulated from the shell 5. The rod 9 terminates below in a supporting-coil 10, attached to the wick-tube W, and thereby electrically connected with the body of the lamp and with a contact-spring 11, which when the circuit is to be closed is pressed by a push-button 12 into contact with an insulated plate 13, connected by a conducting-wire 14 with the opposite pole of the battery.

The purpose of the supporting-coil 10 is to support the incandescing coil 8 in proper proximity to the lamp-wick w when the burner is cold and the wick at a proper height for lighting and also to permit the automatic movement of the insulated shell 5, so as to remove the incandescing coil 8 out of reach of the flame when the wick is ignited.

In the modification shown in Fig. 2 the conducting-rod 1 is connected to the central rod 9 of the igniting device and provided with a coil 17 to permit the vertical movement of the shell 5. The central rod 9 is insulated from the shell 5, as before, so that the current passes through the incandescing coil 8 to the rod 7, which in this form of the device is, together with the expanding helix 4, in electrical connection with the burner and body of the lamp. This connection from the shell 5 may be made through a guide-rod 15 thereon sliding in a hanger 16, depending from the cone C.

The operation of the device as thus far de-

scribed is as follows: The wick being adjusted at proper height, when it is desired to light the lamp pushing the button 12 closes the electric circuit and the current flowing through the iridium coil 8 causes this to become incandescent, and this being in proper proximity to the top of the wick instantly ignites the same. The heat from the burner then causes expansion of the helix 4 and the consequent depression of the free end thereof, which carries down the shell 5, connected thereto, thereby removing the incandescing coil 8 from the flame of the burner, and it will be so held out of reach of the flame so long as the lamp is burning. When the lamp is extinguished, the cooling and consequent contraction of the helix 4 automatically restores the shell 5 and incandescing coil 8 carried thereby to lighting position.

A modification in the circuit-closing device is illustrated in Figs. 3 and 4. In this illustration instead of the ordinary push-button shown in Fig. 1 I employ a rock-shaft 18, mounted in an insulating-bearing 19 in the shank or base of the lamp and carrying on its inner end an eccentric 20, which by a partial rotation of the rock-shaft is pressed against an elastic contact-plate 21 on the lower end of the conducting-rod 1. This rock-shaft is electrically connected with one pole of the battery by a wire 22 and is turned in one direction by means of an external finger-arm 23 to make contact and when released is returned to normal position by a spring 24 to break the circuit.

My improved mode of mounting the batteries in the base of the lamp and providing for their ready removal is illustrated in Figs. 5 and 6. The batteries X X' rest at one end in a cradle 25 of common form in the base of the lamp and are supported at the other end on the projecting ends of a pair of horizontal screws 26, formed with very quick threads turning in fixed nuts or threads in separate metal bars 27 28, fixed by screws 29 to a stationary bar 30 of insulating material which is permanently attached to the base of the lamp by screws 31. On the rocking screws 26 are keyed oscillatory vertical arms 32 33, pivoted by their lower ends at 34 to a horizontal bar 35 of insulating material formed with a projecting thumb-piece 36 for moving it to the right or left. When in the operative position shown in Figs. 5 and 6, the upper end of the oscillatory arm 32 rests in electrical contact with the carbon of the battery X and the upper end of the oscillatory arm 33 in electrical contact with a metal cap 37, supported on insulation 39 and connected by a plate or wire 38 with the zinc of the battery X'. A suitable conducting plate or wire 40 connects the zinc of the battery X with the carbon of the battery X'.

In operation the bar 27 is electrically connected with the body of the lamp and the bar 28 with the insulated conducting-rod 1, or vice versa, either directly or through the medium of a suitable circuit-closing device, such, for example, as shown in Fig. 1 or Fig. 3. When the contact-bars 32 33 are deflected from the vertical position shown by manipulation of the shifting bar 35, the batteries are thrown out of circuit, and by the same movement the supporting-screws 26 are retracted, so as to release the batteries and permit their ready removal.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In an electric lighting device for lamps, the combination of a suitable source of electricity-conducting wires and means for closing and breaking the electric circuit there-through, a lighting medium in said electric circuit and a thermal device expansible by heat derived from the lamp flame and connecting means between the thermal device and the lighting medium, whereby the latter is withdrawn from the flame by the action of heat derived therefrom, substantially as described.

2. In an electric lighting device for lamps, the combination of a resistance device capable of developing igniting heat by the passage of an electric current, means for connecting such resistance device with a suitable source of electricity and a thermal device expansible by heat acting mechanically on the resistance device and adapted to retract it from the flame after lighting, substantially as described.

3. In an electric lighting device for lamps, the combination of a suitable source of electricity a heat-generating resistance in the electric circuit mounted in proximity to the lamp-wick so as to ignite the same and a metal coil mounted in position to be expanded by heat from the lamp-burner and mechanically connected with the support of the igniting medium so as to retract the same from the flame after lighting, substantially as described.

4. In an electric lighting device for lamps, the combination of a battery removably supported in the base of the lamp and a manually-operated retaining device adapted to disconnect the battery from the electric circuit and release it at the same operation so as to permit its removal from the lamp, substantially as described.

5. In an electric lighting device for lamps, the combination of an electric battery, a support therefor in the base of the lamp and a pair of manually-retractable arms, retaining the battery in position and connected respectively with the opposite poles of the battery

so as to form parts of the electric circuit, substantially as described.

6. In a self-lighting device for lamps, the combination of an electric resistance device,
5 adapted to develop igniting heat in proximity to the burner and automatic means actuated by heat derived from the flame, operat-

ing to retract the igniting device from the flame after lighting, substantially as described.

SVEND MARTIN MEYER.

Witnesses:

OCTAVIUS KNIGHT,
CHAS. H. WEBB.