(No Model.)

L. PAGET.

PORTABLE ELECTRIC LAMP.

No. 599,975. Patented Mar. 1, 1898.

Fig. 4.

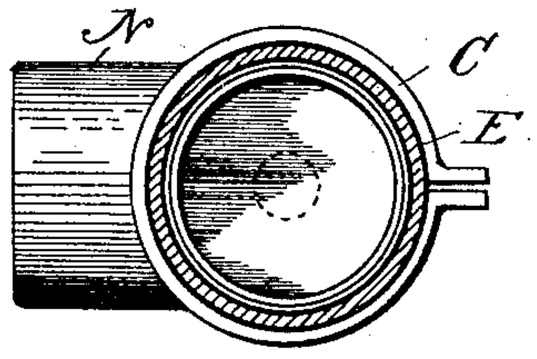


Fig. 2.

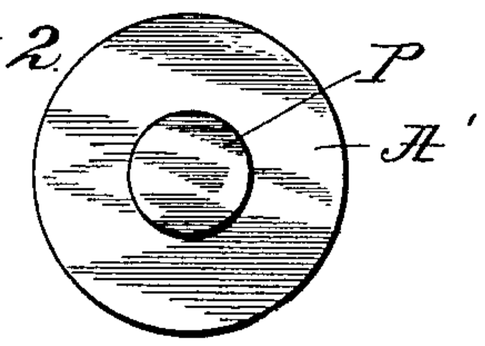


Fig. 1.

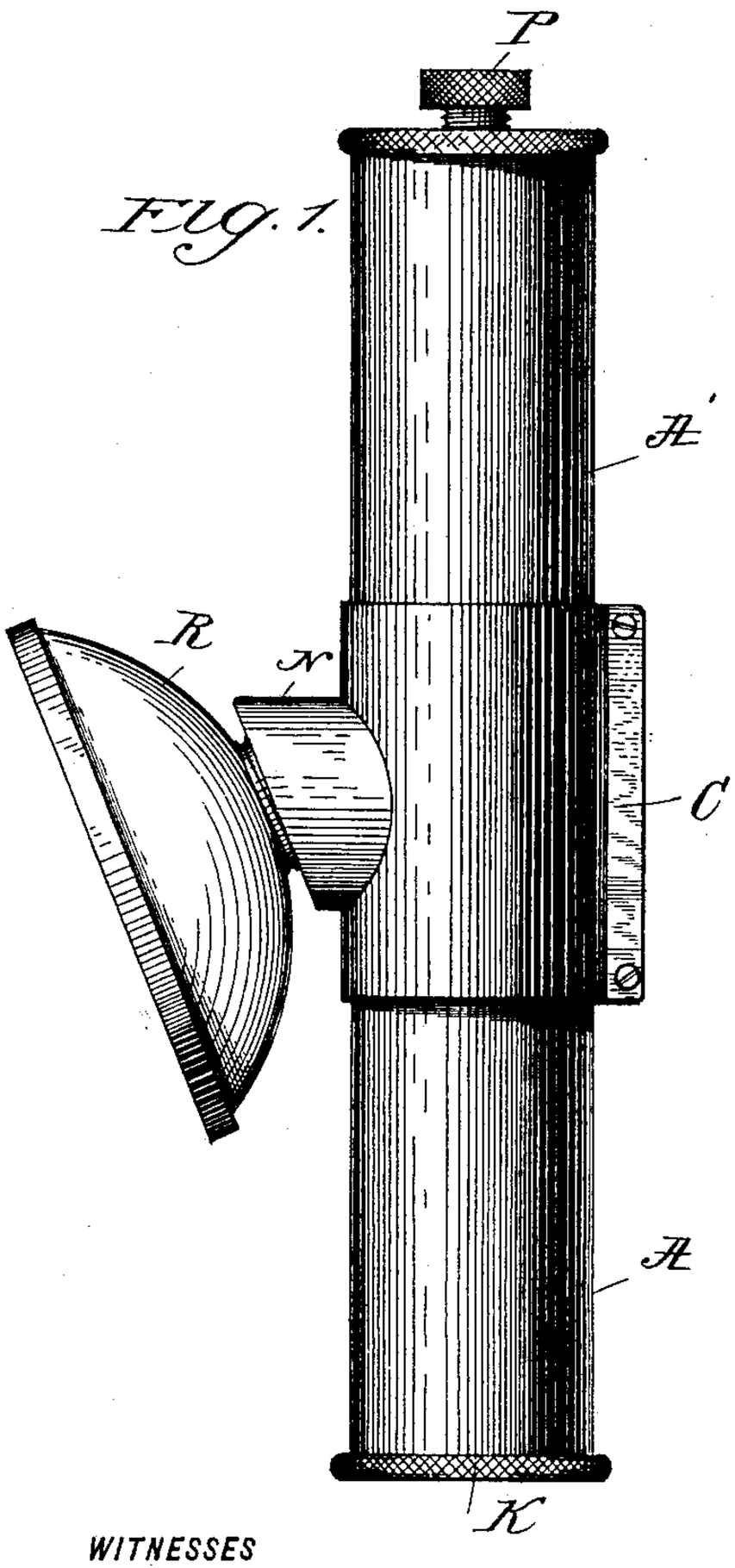
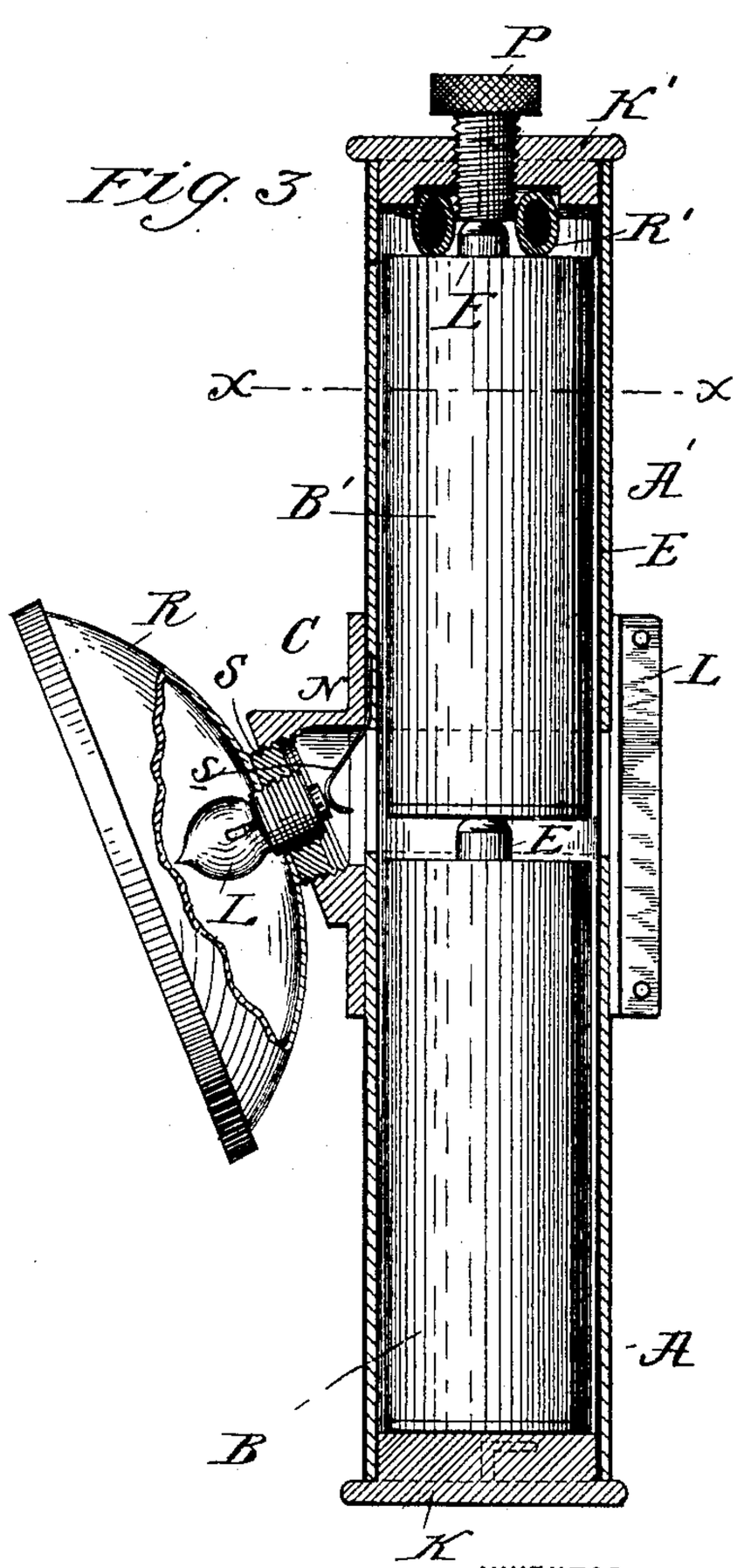


Fig. 3.



WITNESSES

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PORTABLE ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 599,975, dated March 1, 1898.

Application filed July 8, 1897. Serial No. 643,807. (No model.)

To all whom it may concern:

Be it known that I, LEONARD PAGET, a citizen of the United States, residing at New York, in the county of New York and State of New York, have made a new and useful Invention in Portable Electric Lamps, of which the following is a specification.

My invention relates particularly to improvements in that type of portable electric lamps which utilize batteries as the source of current-supply—such, for instance, as are used in connection with hand lamps or lanterns, bicycles, carriages, and analogous vehicles; and its objects are, first, to devise such a lamp as will be compact in structure, with the parts and circuit connections so arranged or constructed that they will withstand the ordinary shocks and usage in transportation without detriment thereto; second, to so arrange said parts that the batteries may be quickly and readily removed from the retaining-casing when it becomes necessary to restore or replenish them; third, to construct the supporting parts of the battery in the nature of metallic casings, and to combine therewith a lamp and a reflector in such manner that the casings constitute the conductors of the current from the battery to the lamp, thereby avoiding the use of wires as conductors.

My invention will be fully understood by referring to the accompanying drawings, in which—

Figure 1 is a side elevational view of the entire structure, and Fig. 2 a plan view of the top portion thereof. Fig. 3 is a vertical sectional view taken through Fig. 1, the reflector being shown in broken section. Fig. 4 is a horizontal sectional view taken on the line *x x*, Fig. 3, the reflector and lamp being removed.

Referring now to the drawings in detail, A and A′ represent two tubular metallic retaining-casings, and K and K′ metallic heads or caps therefor, provided with bayonet-and-socket connections, the pin connection being attached to the inner portions of the retaining-casings and the bayonet connection grooved in the outer surface of the heads or caps K and K′, as will be obvious on inspection of Fig. 3.

C represents a cylindrical clamp or clip, provided on one side with two lugs or ears L and on the other with a neck N, screw-threaded interiorly for the purpose of receiving the screw-threaded neck S of a metallic reflector R, which neck in turn is provided with an opening and interior screw-threads adapted to receive the screw-threaded portion of an incandescent lamp L.

B and B′ represent two metallic battery-cups, preferably of copper, for retaining the battery solution, and E E are the active electrodes, hermetically sealed therein, said electrodes being of any preferred form, either in the nature of a dry battery or a storage battery of any preferred structure, the retaining-cups B and B′ constituting the positive poles of the battery and the electrodes E E the negative poles thereof, the arrangement being such that when the solution is in position in the hermetically-sealed cups and the cups in turn in position in the retaining-casings A and A′ the lower cup B will rest upon the inner surface of the bottom cap K and the upper cup B′ will rest upon the negative electrode E of the lower cell, P being a metallic thumb-screw adapted to be screwed through the upper cap K′ against the electrode E, R′ being a soft-rubber ring for effectually sealing the upper portion of the battery.

The inner and outer surfaces of the casing A′ are coated with insulating material, preferably a thick coating of japan, and the outer surface of the lower casing A is similarly coated to a point near the lower edge of the clamp C, the coating being discontinued at this point for the purpose of making good electrical connection between the outer surface of the casing A and the said clamp C, as clearly illustrated in Fig. 2 of the drawings.

s is a conducting-spring secured to the lower end of the metallic casing A′ but beneath the insulating-coating, its free end being adapted to bear against the inleading conductor of the lamp L, the outleading conductor of which is connected to the screw-threaded portion of the lamp and hence to the conducting-necks S and N, the circuit being from the inleading conductor of the lamp through the spring *s*, the metallic shell A′, cap K′, screw-plug P, electrode E, through the battery solution from the cup B′ to the lower inner electrode E, thence through the battery solution of the

lower cup B to said cup, finally through said cup to the lower cap K, to the retaining shell or casing A, back to the neck N in the screw-threaded portion of the lamp through the filament to starting-point.

In order to put the parts together, the screws in the rear side of the clamp or clip C are simply removed and the casings A and A′ inserted in the manner shown in Fig. 3, after which the screws are driven firmly home, so as to firmly clamp or clasp the shells in the position shown. The lamp, and its reflector, is then screwed into the neck N and is ready for use. When it is desired to disconnect the lamp, it is only necessary to withdraw the thumb-screw P until the circuit is broken.

I do not limit myself to the especial details of construction herein shown and described, as the same might be departed from in a number of respects and still come within the scope of my claims hereinafter made. To illustrate, the heads or caps K and K′ might be screw-threaded and the interior of the cups correspondingly screw-threaded to receive the same, or the tubular retaining casings or shells A and A might be made each of a single piece of metal of cup-like form, the upper one having the opening for the thumb-screw P or any analogous switch which might be used for closing and interrupting the circuit, the lower or open end of the upper retaining-casing A′ and the upper end of the lower retaining-casing A being provided with bayonet-pins adapted to fit into bayonet-grooves in the body part of the clamp C, the necessary insulation of course being provided for the upper cup for the purpose of insulating it from said clamp, my invention being directed generically to a portable lamp having two retaining-casings inclosing the necessary battery and held together by retaining means which supports an electric lamp in circuit with the battery.

It is obvious that there may be more than two battery-cells used in the manner hereinbefore described and that they might be placed side by side instead of the one upon the other, and also that the retaining-casing might be of any conducting material and insulated on its exterior surface wholly by enamel or otherwise, as desired.

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

1. An electric lamp consisting of a case comprising two parts of conducting material insulated from each other and covered with external insulation, a lamp supported upon the case, and electrically connected thereto, and a battery within the case, one of its terminals being in engagement with one part of the case, and the other adapted to be connected with the other part thereof by means of a movable circuit-closer, substantially as described.

2. An electric lamp consisting of a case comprising two parts of conducting material insulated from each other, a lamp supported upon the case, its two terminals each being in contact with one of the parts of the case, and a battery within the case adapted to have its terminals connected one with one part and the other with the other part of such case, substantially as described.

3. An electric lamp consisting of a case comprising two parts of conducting material insulated from each other, a lamp whose terminals are connected one with one part and the other with the other part of the case, and a battery within the case one of its terminals being in engagement with one part of the case, and the other terminal adapted to be connected with the other part of the case, substantially as described.

4. An electric lamp consisting of a case of two parts insulated from each other and lined with insulation, and a battery within the case, one terminal connected with one part and the other with the other part, and a lamp outside the case, one terminal connected with one part and the other with the other part of the case, substantially as described.

5. An electric lamp consisting of a series of batteries, the outside shell of each battery being part of the circuit, a case consisting of two parts insulated from each other, one part connected with one terminal of the batteries, the other part with the other terminal, and a lamp whose terminals are connected respectively with the case parts, substantially as described.

6. An electric lamp consisting of a case comprising two parts insulated from each other, insulated externally, and lined internally with insulation, a lamp supported on the outside of the case, its terminals permanently connected each with one of the two parts of the case, and a battery within the case, its shell forming part of the circuit, and one of its terminals in permanent contact with one part of the case, and the other adapted to be connected with the other part of the case, substantially as described.

7. A portable lamp consisting of two retaining-casings insulated from each other united together by an intervening conducting clip or clamp, in combination with one or more battery-cells having each a metallic containing vessel and circuit connections between the metallic vessel or vessels, the electrode or electrodes, and the metallic portions of the retaining-casings, together with a lamp carried by the clamp and electrically connected to the battery, substantially as described.

8. A portable lamp consisting of two insulated metallic retaining-casings having detachable end caps, a metallic retaining clip or clamp adapted to bind them together, a pair of battery-cells having each a metallic cup and a contained electrode, a lamp secured in the neck of the retaining-clamp and electrically connected with the retaining-casings, and circuit connections between the cells and the detachable end caps, substantially as described.

9. A portable lamp consisting of two insulated tubular retaining-casings having each a detachable cap, a tubular clip or clamp and one or more battery-cells having circuit connections between the caps and the clip or clamp, in combination with an electric lamp and a reflector carried by the clip or clamp and detachable therefrom, substantially as described.

10. A portable lamp consisting of two tubular retaining-casings of cup-like form, in combination with means for securing said retaining-casings together at their open ends, said means being provided with additional means for securing an electric lamp and circuit connections between said lamp and one or more battery-cells inclosed in said retaining-casings, substantially as described.

11. A portable lamp consisting of two tubular conducting retaining casings or shells insulated from each other, in combination with a clamp adapted to surround the open ends of said tubular casings or shells and secure them together, said clamp being provided with means for securing an electric lamp and circuit connections between the lamp, the metallic shells or casings and an inclosed battery, substantially as described.

12. A portable lamp consisting of two tubular conducting retaining-casings of cup-like form insulated from each other and means for securing said retaining-casings together at their open ends, in combination with an electric lamp and a reflector secured to said retaining means and provided with electrical connections for connecting it to an inclosed battery in circuit with the retaining-casings, all of said parts acting substantially as and for the purpose described.

In testimony whereof I have hereunto subscribed my name this 7th day of July, 1897.

LEONARD PAGET.

Witnesses:
O. T. BUGG,
C. J. KINTNER.