

G. RUCKARDT.
 COMBINED LAMP AND BATTERY TESTER.
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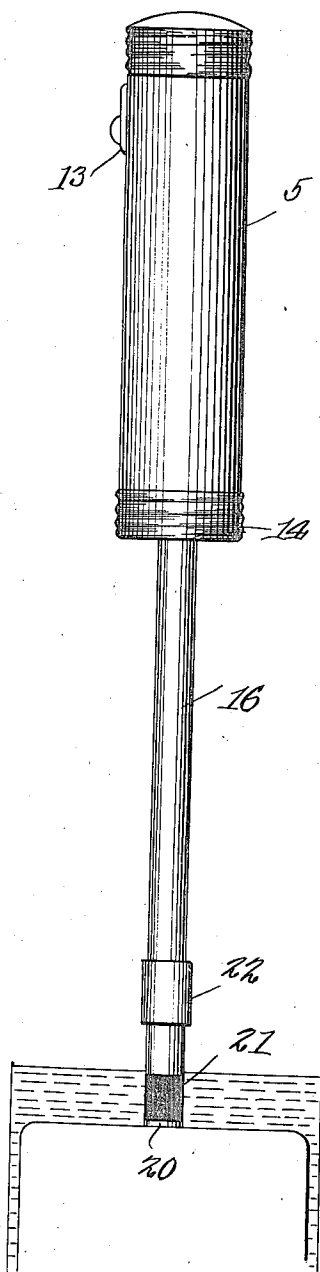


Fig. 1.

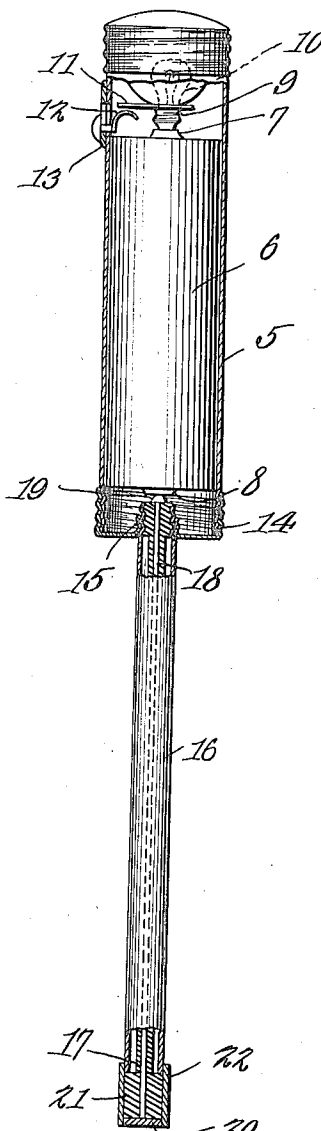


Fig. 2.

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COMBINED LAMP AND BATTERY-TESTER.

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To all whom it may concern:

Be it known that I, GUSTAV RUCKARDT, a subject of the Emperor of Germany, and resident of New Hampton, in the county of Chickasaw and State of Iowa, have invented certain new and useful Improvements in Combined Lamps and Battery-Testers, of which the following is a specification.

This invention relates to combined electric lamp and battery testers, the said invention having for its object the provision of novel means whereby it can be determined whether the battery fluid is at a predetermined height and whether the battery charge is high or low; the said invention being also of utility as a so-called "trouble" light used by motorists and others, the same being sometimes known as pocket lamps.

An object of this invention, furthermore, is to provide novel means which may be conveniently operated for changing the device so that it can be used in the two capacities heretofore indicated.

With the foregoing and other objects in view, the invention consists in the details of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this specification wherein like characters denote corresponding parts in the several views, and in which—

Figure 1 illustrates a view in elevation of a lamp embodying the invention; and

Fig. 2 illustrates a similar view with parts broken away to more fully illustrate the relation of parts.

In these drawings 5 denotes a casing which is adapted to hold the usual dry cell 6, the said cell having a negative terminal 7 and a positive terminal 8 adapted to be contacted for establishing a circuit. The interior of the casing has any appropriate lamp holder or socket 9 for a lamp 10, and the said lamp socket has a switch plate 11 adapted to be engaged by a contact 12 carried by the slide 13, so that as the slide is moved, the contact may be brought into or out of engagement with the switch plate 11.

The lower end of the casing has a cap 14 threaded to it, and the said cap has an aperture, the wall 15 of which is threaded for engaging the threads of a metal tube 16, which metal tube constitutes a conductor

of electricity. Situated within the said metal tube is a wire or conductor of electricity 17 with insulation 18, which insulation is anchored in the interior of the tube 16, preferably engaging the threads by which the tube is secured to the cap 14. The upper end of the conductor 17 is enlarged as at 19 to form a contact which engages the terminal of the cell or battery to establish a circuit. The lower end of the conductor 17 carries a contact plate 20 and above the contact plate 20, there is an insulating filler 21 so as to electrically separate the plate 20 from the tubular portion 16. A metallic sleeve 22 is slidable over the tube 16 and over the insulation, and the said sleeve is of a size to contact the periphery of the plate 20 so that through the instrumentality of this sleeve, the tube 16 and plate are electrically connected.

As shown in Fig. 2 of the drawing, a circuit is established through the terminal or contact 8, conductor 17, plate 20, sleeve 22, tube 16 and the case 5 to the lamp and through the lamp to the contact 7 when the slide 17 is moved to cause engagement of the contact 12 and switch member 11.

For the purpose of testing a battery and to determine whether the fluid in the battery is of the required height therein, the sleeve 22 is moved upwardly on the tube 16 or removed therefrom entirely, so that the plate 20 is disconnected from the sleeve, it being the purpose of the inventor to then rely upon the elements of the battery for establishing the circuit, and the fluid of the battery to bridge the space between the plate 20 and the tube 16. It will be, of course, apparent that if the fluid is not of a height to reach from the plate 20 to the end of the tube, there will be an interrupted circuit and the lamp will not be illuminated, whereas the lamp will light if the fluid is of the required height, it being the purpose of the inventor that the insulation shall be of a height equal to that required in a battery between the tops of the plates and the height of the liquid above the said plates. Furthermore, it can be determined, by observation, whether the battery is fully or partially charged as the intensity of the light will enable an operator of even limited experience to determine the condition of the battery.

I claim:

1. In a combined lamp and battery tester,

a casing, a dry cell therein having a positive and a negative terminal, a conductor of electricity, means for holding the said conductor in engagement with one of the terminals, 5 a tube in which the conductor is housed and from which it is insulated, an insulator separating the conductor from the tube at the end of said tube, a means for establishing circuit from the said tube to the said 10 conductor, and means electrically connected to the opposite pole of the battery for establishing circuit from the said tube to the said lamp.

2. In a combined lamp and battery tester, a conductor of electricity having insulation 15 at one end, a tubular member in which the conductor is housed and from which it is insulated, a movable member for controlling current from the conductor to the tubular 20 member and adapted to cover the insulation between the conductor and tube, an electric cell having a terminal engaged by the conductor, and means whereby circuit is established between the said terminal and the opposite terminal of the said battery.

GUSTAV RUCKARDT.