March 17, 1925. 1,530,206

C. J. SAAGER

LANTERN OR LAMP

Filed July 8, 1922 3 Sheets-Sheet 1

Fig. 1

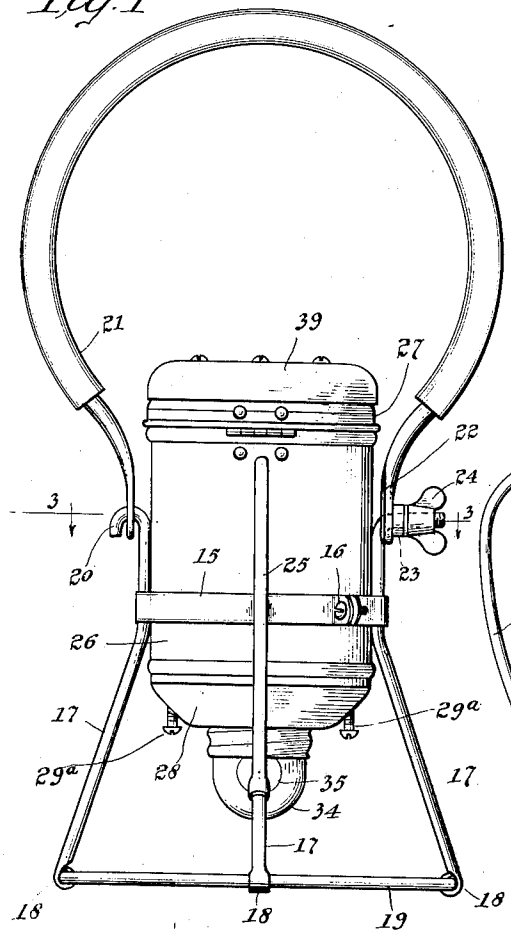


Fig. 2

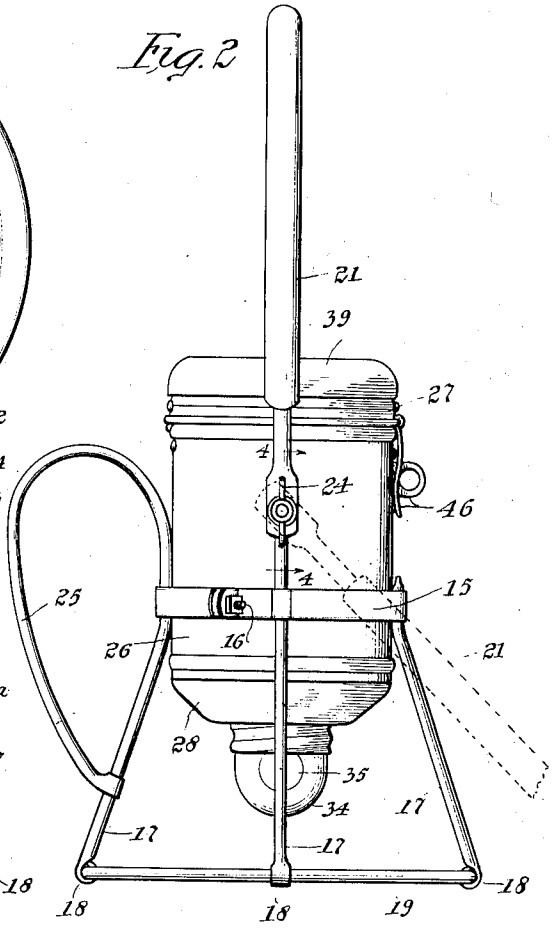


Fig. 3

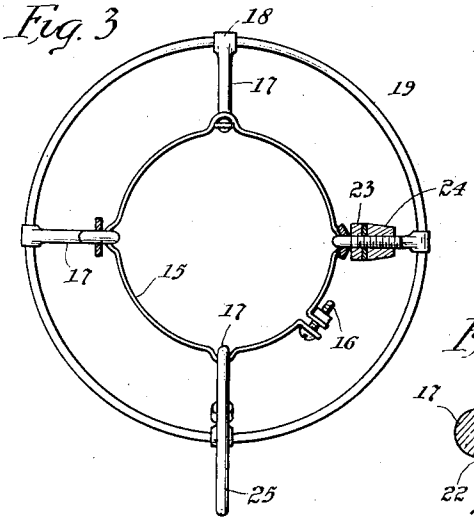


Fig. 4

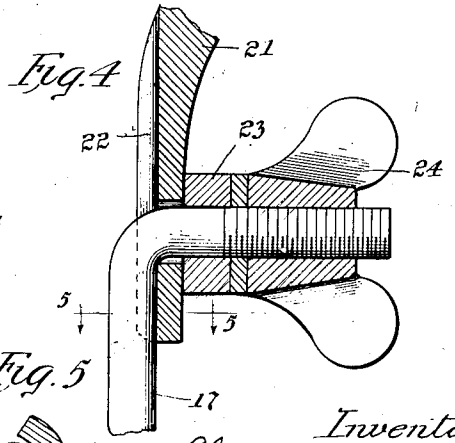
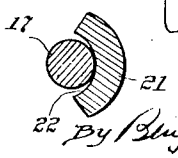


Fig. 5



Inventor:
Charles J. Saager
By Benjamin, Rodhaver & Kinsey
Attys

March 17, 1925.

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C. J. SAAGER

LANTERN OR LAMP

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Fig. 6

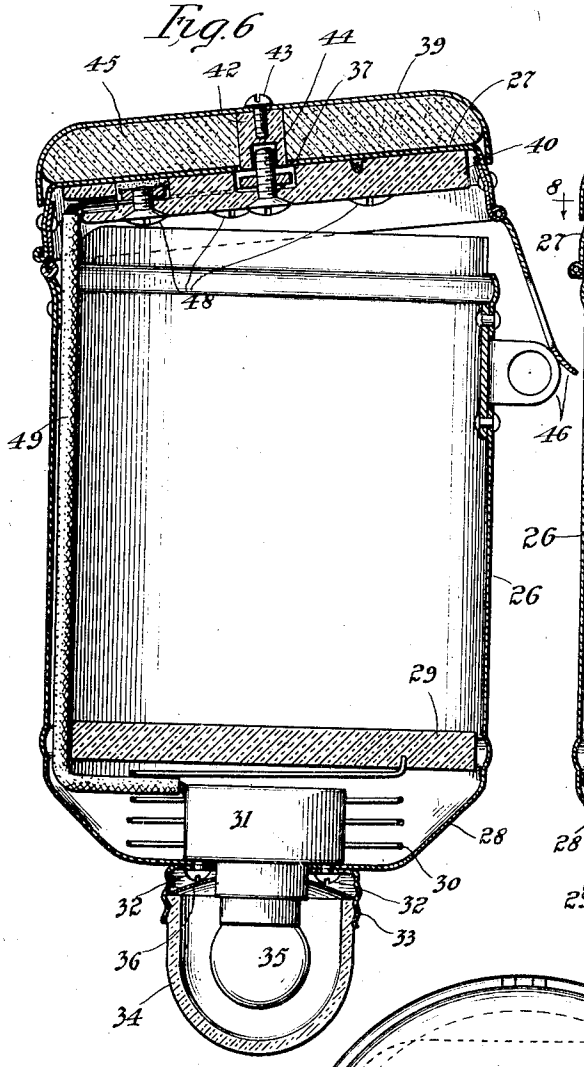


Fig. 7

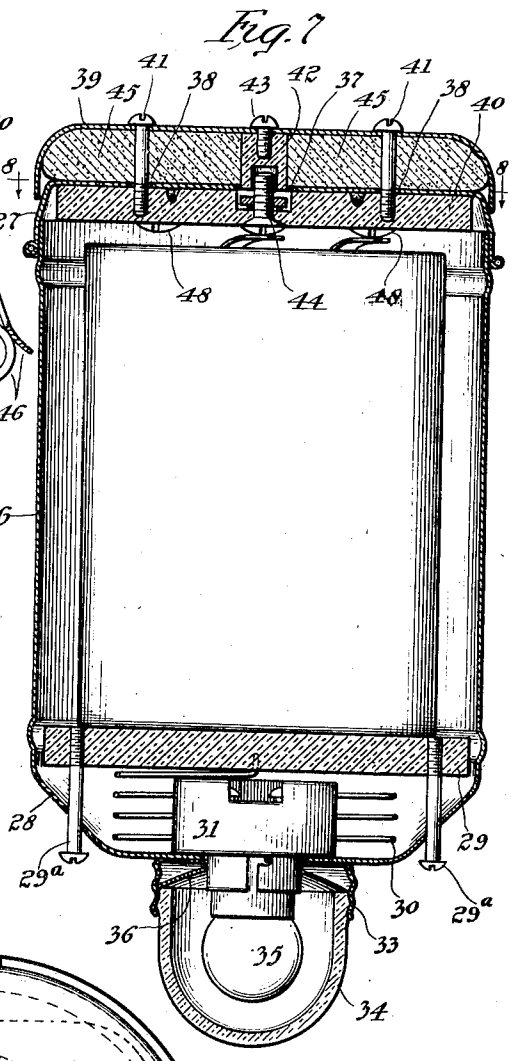
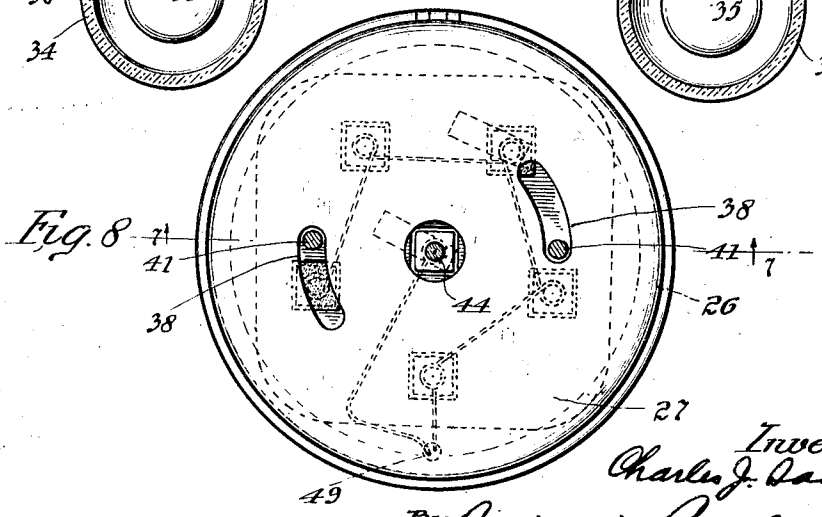


Fig. 8



Inventor:
Charles J. Saager
By Benjamin, Rosenbaum & Lundy
Attys.

March 17, 1925.

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C. J. SAAGER

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Fig. 9

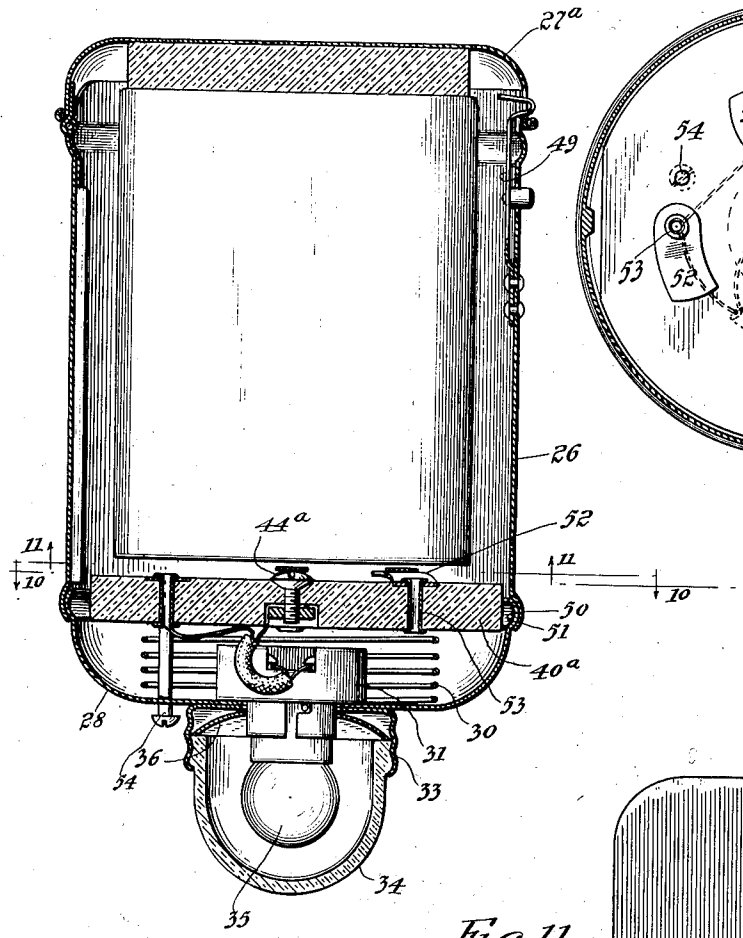


Fig. 10

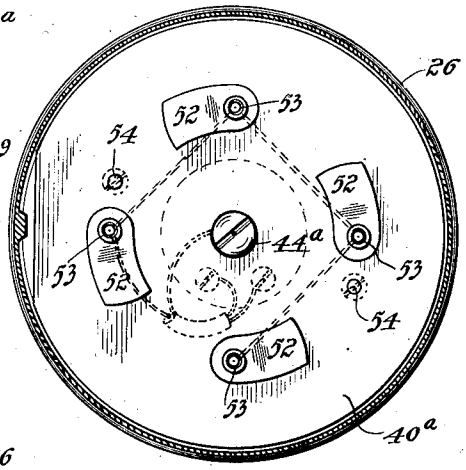


Fig. 11

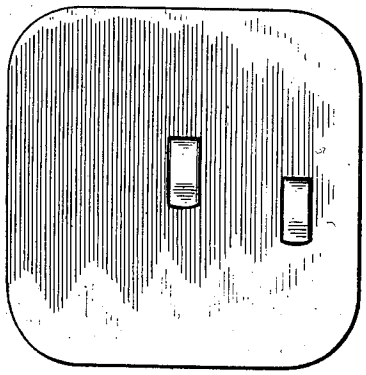
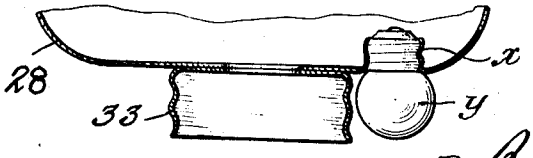


Fig. 12



Inventor:
Charles J. Saager
By Benjamin, Rodhouse & Lundy
Attys.

Patented Mar. 17, 1925. 1,530,206

UNITED STATES PATENT OFFICE.

CHARLES J. SAAGER, OF BLUE ISLAND, ILLINOIS, ASSIGNOR TO HENRY RAWSTRON, TRUSTEE.

LANTERN OR LAMP.

Application filed July 8, 1922. Serial No. 573,612.

To all whom it may concern:

Be it known that I, CHARLES J. SAAGER, a citizen of the United States, residing at Blue Island, in the county of Cook and State of Illinois, have invented a new and useful Improvement in a Lantern or Lamp, of which the following is a specification.

My present invention relates to improvements in lanterns, or portable lamps, and has special reference to lanterns and portable lamps in which the illuminating power is electricity furnished by a portable battery for rendering incandescent the filament of an electric light bulb. In such a structure it is usual to provide a container or casing to receive the battery and on which the bulb is mounted. Such lanterns or lamps are used in railroad service, and in other connections where it is important to provide a sturdy equipment of positive and dependable functioning characteristics. Such structures are often damaged to a greater or less extent, and the objects that I have had in mind in designing the structure hereinafter illustrated and described are, first, the provision of a strong and compact casing for receiving the battery and supporting the bulb which is separable from the lantern or lamp stand structure, thereby permitting the replacement of either of these units if the other should be damaged.

In designing the battery casing I have provided a switch structure which does away with any special orientation of the battery with respect thereto in inserting it in the casing, and which is so formed that there will be no liability of its accidental movement or operation as by engaging extraneous objects, or the clothing of the person operating the lamp. In connection with the switch I have wired the terminals thereof through insulated conductors directly to the poles or terminals of the light socket, instead of passing the current through the structure of the casing, which arrangement I believe greatly lessens the possibility or liability of leakage or short circuiting the battery and thereby needlessly exhausting it. Also in connection with the switch the terminals or contacts thereof are arranged to make a wiping contact with the terminals of the battery, and these terminal plates of the switch I have made of simple pieces of spring conductor which may be very economically attached, and which will facilitate both the wiping and contacting functioning. In connection with the mounting of the lamp or bulb I have also provided a globe therefor, which structure as I have provided it permits the easy and convenient installation of a reflector for the lamp, thereby increasing its efficiency without requiring any greater expenditure of power.

In connection with the separable lantern or lamp frame in which the battery casing is held, besides making it separable as before alluded to, I have provided it with a bail which may be adjusted to swing, as is usual with lanterns, or may be fixed in a rigidly upright position, which is desirable for some classes of service. I have also provided this frame with a handle to facilitate the use of the structure as a lamp as contra-distinguished from a lantern with a bail. It will be understood that by making the stand and battery casing separable I permit these parts to be assembled with the battery casing so that the bulb will either be above or below the casing which broadens the use of the structure in different services. I have attained the hereinbefore mentioned objects by means of the structure illustrated in the accompanying drawings, in which—

Fig. 1 is an elevation of the lantern and lamp completely assembled.

Fig. 2 is a view similar to that shown in Fig. 1, but being at right angles thereto, and in Fig. 2 we have shown in dotted lines the position of the bail when depressed.

Fig. 3 is a top plan of the lantern or lamp frame with the battery casing removed.

Fig. 4 is a fragmental detail to an enlarged scale, and partly in section, of the means for adjusting the bail in either a rigidly vertical position or so that the same will have a pivotal action with respect to the lantern.

Fig. 5 is a transverse section on line 5—5, Fig. 4.

Fig. 6 is a central longitudinal section of the battery casing, the cover latch being open and the closure slightly elevated.

Fig. 7 is a view similar to that of Fig. 6, but taken on a different section line, a battery being shown in the container and the cover or closure in closed position.

Fig. 8 is a section on line 8—8, Fig. 7.

Fig. 9 is a central sectional view of the battery casing showing a slightly modified construction in which the switch is disposed

in the bottom of the battery casing as contra-distinguished from the closure of the casing.

Fig. 10 is a section on line 10—10, Fig. 9.

Fig. 11 is a view of the terminal end of a commercial battery such as is employed in the lanterns herein described; and

Fig. 12 is a detail of a fragment of the battery casing showing how the same may be formed for holding a replacement bulb.

The same reference characters have been employed to designate similar portions throughout the respective views. Taking up, first, the separable lantern or lamp stand which, as will be seen by reference to Figs. 1 to 3, inclusive, consists of a clamping band 15 to encircle the battery casing, the ends of which band are bent laterally at right angles and bored to receive the adjusting and clamping screw and nut 16. The band 15 is provided, at preferably diametrically opposite positions, with a plurality of outwardly extending semi-loops to receive rods 17 which are secured in said loops by sweating, or in any other dependable and substantial manner. At one side of band 15 the rods are given a preferably diverging angular direction and ended in a common plane in loops 18 through which passes a ring or hoop 19 to form the base of the structure. Two of rods 17 are extended above band 15, one being hooked at 20, to receive the perforated end of a bail 21, and the other or opposite rod is bent outwardly at right angles and threaded to receive the perforated opposite end of bail 21 which is provided with a longitudinal channel 22 and a clamping washer 23 and milled nut 24 for either clamping the bail in a rigid vertical position or permitting the same to swing upon its bearing. One of the other rods 17 is also preferably extended above clamping band 15 and looped backwardly and secured to its lower extension to form a lamp handle 25. It will be seen that this structure, while capable of holding the battery casing and protecting the same, is also readily detachable so as to permit the battery casing to be assembled therewith with the bulb at either the top or bottom thereof, and also permits of the replacement of either of these elements in case that such replacement becomes necessary.

The unit comprising the battery casing and support for the bulb is shown in Figs. 6 to 11, inclusive, and consists of a shell 26 preferably of cylindrical form, one end whereof is closed by a hinged cap or cover 27, and the other end whereof is formed with an outwardly extending end wall 28 upon which the lamp or bulb socket is mounted, as will be hereinafter described. Within the casing adjacent end wall 28 is provided a follower plate 29, made preferably of insulating material, which is pressed inwardly by a coil spring 20 positioned between plate 29 and end wall 28. Wall 28 is also laterally perforated at two opposite points for the passage of headed screws 29^a which limit the inward movement of the follower plate. The end wall is centrally appertured, and secured opposite the central aperture and below the plate and within the coils of spring 30 is a lamp or bulb socket 31, preferably of the bayonet type. Upon the outer face of end wall 28 about the central opening and secured thereto by the same screws 32 which secure the socket in position, is the inwardly or laterally extending flanged holder 33, the periphery of which is threaded for receiving a globe 34 that surrounds the bulb 35. This construction permits of the installation around the base of bulb 35 of a reflector 36 with no additional cost beyond the expense of the reflector itself.

The hinged cover 27 is centrally apertured, at 37, and also provided with diametrically located segmental slots 38. Fitted closely outside of hinged cover 27 is a rotatable plate 39 and fitted within the cover is a disk of insulating material 40. This disk of insulating material is secured to plate 39 by means of screws 41 extending through the segmental slots 38, heretofore referred to, and by means of a centering plug of insulating material 42 which is held to plate 39 by means of a screw 43. This plug 42 extends into the central aperture 37 of the cover and is centrally bored at its inner end to receive the extended shank of a screw 44 the head of which projects from the underside of disk 40 and constitutes the central terminal of the switch. Between cover 27 and plate 39 is a packing 45 of felt, or other suitable material, for excluding rain, water or other foreign element from the interior of the battery casing.

Suitable means, such as a hasp and loop 46, as shown in Fig. 6, or a spring latch 47, as shown in Fig. 9, may be employed for holding cover 27 in closed position. In circumferential relation about the central screw 44 are provided five screws 48 the heads of which are either flush with or extend slightly below the inner face of disk 40. These screws 48 terminate below the upper face of disk 40 and are wired in series, and also connected in series with a pole or terminal of socket 31, while screw 44 is connected with the other terminal or contact of socket 31. The connections between screws 48 and screw 44 with the terminals of the plug may be made with insulated conductor which can be conveniently carried through a single piece of insulating tubing 49 to insulate these circuits against shortening. A plurality of screws 48 are employed so that a very short rotary movement of the switch will serve to bring one of screws 48 either into or out of contact with the lateral battery pole. It will, of course, be understood that the cen-

tral pole of the battery connection is always in contact with screw 44.

In Figs. 9 and 10 I have shown a slightly modified structure in which the switch disk plate 40^a, in all substantial respects similar to disk 40, is positioned at the end of the casing opposite to hinged cover 27^a, and besides performing its functions as a switch, also performs the functioning of follower plate 29. With this construction, the cylindrical walls of the battery casing opposite the end provided with the hinged cover terminate with a circumferential bead or corrugation 50. The end 28, in this form, is made separable and its edge or periphery is beaded, at 51, to co-operate with bead or corrugation 50 of the casing and to permit rotary movements between the casing and end 28. The switch plate 40^a is secured to revoluble end plate 28 so as to revolve therewith by means of screws 54 which also limit the inward movement of the plate when functioning as a follower. In this form, I have shown the lateral contacts instead of consisting of screws, such as 48, to consist of leaves 52 of spring metal which are secured at one end to disk 40^a by eyelets 53 which are headed over in the usual manner with such structures. The unattached ends of spring leaves 53 are bent slightly away from the inner face of disk 40^a and not only supplement the action of the follower spring in making contact, but individually follow the contour of the battery and takes care of any accidental irregularity which may be present in the surface thereof. In this modified form central contact 44^a is still a fixed screw, but may be made of a spring plate without in any way departing from the teachings herein described.

In Fig. 12 is shown how, preferably, the bulb holding end of the battery casing may be formed with a threaded depression or socket x for holding a replacement bulb y.

What I claim as new is:

1. An electric lantern comprising a battery casing and lamp-supporting unit, and a separable stand unit; said separable stand unit consisting of a clamping band adapted to be detachably clamped to the battery casing and lamp supporting unit, laterally extending rods secured to said clamping band, a hoop secured to and joining the ends of said rods at one side of said band, a bail member pivotally joined to opposite of said rods; one end of said bail member being longitudinally channeled to receive its co-operating rod, and means for clamping said channeled member and its rod in rigid relation.

2. In an electric lantern, a battery casing and lamp support of cylindrical form, a hinged closure at one end thereof, a switch plate mounted within said closure, an insulating follower plate mounted at the other end of said casing, and a spring for pressing said follower towards a battery when contained in said casing.

3. In an electric lantern, a battery casing and lamp support, a hinged closure at one end thereof the other end being apertured, and a lamp socket being secured adjacent said aperture, an insulated revoluble switch plate mounted in one end of said casing, and means for maintaining a yielding contact between said switch plate and a battery contained within said casing.

4. In an electric lantern, a battery casing and lamp support, a revoluble switch disk located in one end thereof, a central terminal carried by said switch disk and a plurality of lateral terminals carried by said disk; said lateral terminals consisting of spring conductors normally extending from the face of said disk.

5. In an electric lantern, a battery casing, a switch comprising a disk of insulating material rotatably mounted within said casing, a central and a plurality of serially connected lateral terminal conductors mounted in said disk.

6. In an electric lantern, a battery casing, a switch comprising a disk mounted within the end of said casing, a central and a plurality of lateral serially connected terminals on said disk, and a plate mounted exteriorly of the end of said casing by elements extending between the same and said disk.

Signed at Chicago, county of Cook and State of Illinois, this 5th day of July 1922.

CHARLES J. SAAGER.

Witness:
FLORENCE MITCHELL.