L. G. SPENCER.

LANTERN.

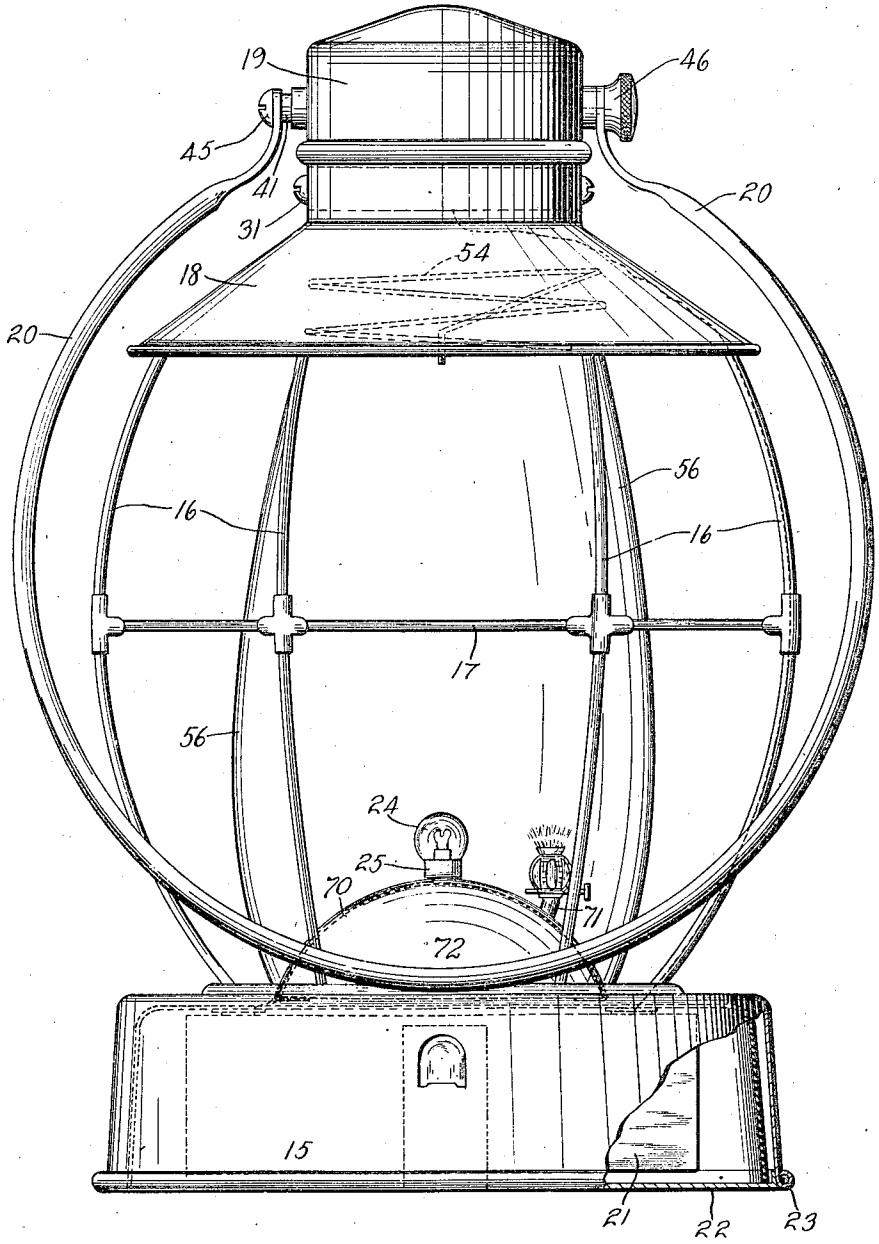
APPLICATION FILED OCT. 16, 1913.

1,124,348.

Patented Jan. 12, 1915.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

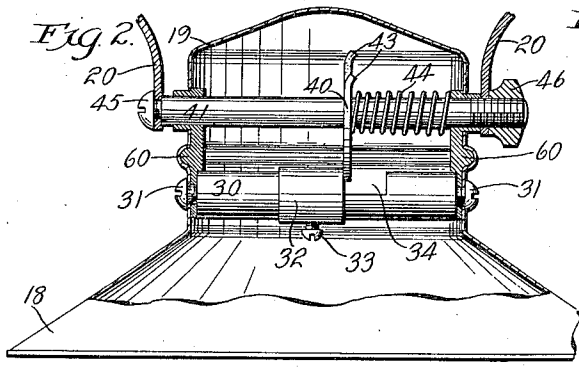


Fig. 3.

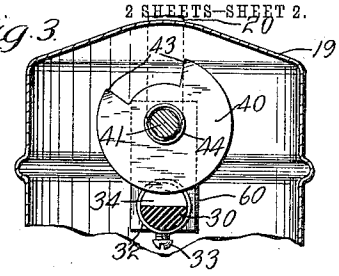


Fig. 4.

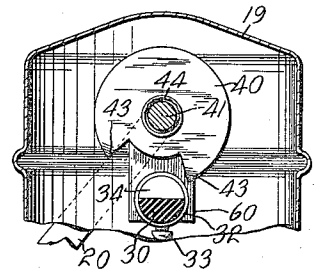


Fig. 5.

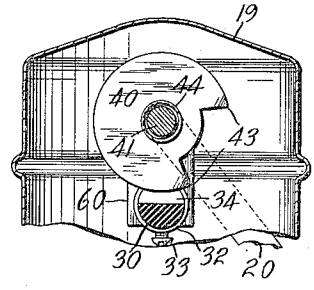


Fig. 6.

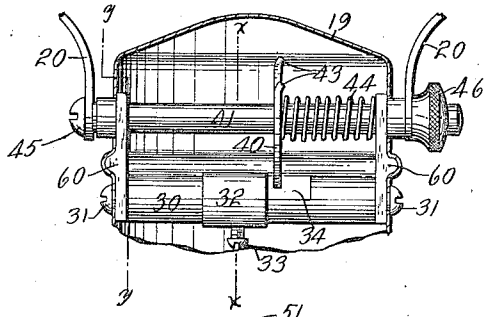


Fig. 8.

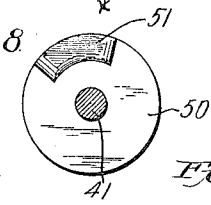


Fig. 9.

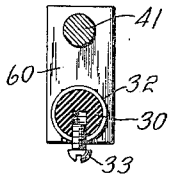


Fig. 10.

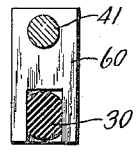


Fig. 11.

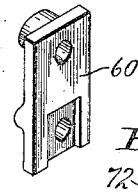


Fig. 12.

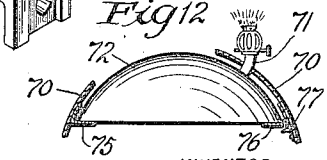
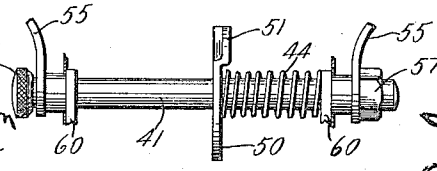


Fig. 7.



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LANTERN.

1,124,348. Specification of Letters Patent. Patented Jan. 12, 1915.

Application filed October 16, 1913. Serial No. 795,500.

To all whom it may concern:

Be it known that I, LLOYD GILBERT SPENCER, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Lanterns, of which the following is a specification.

My invention relates to lanterns comprising an electric lamp adapted to be operated by an electric battery carried by the lantern, and it particularly relates to that general type of lanterns provided with a bail by which the same may be suspended and carried about, such lanterns, comprising the type commonly known as railroad lanterns, although my invention is adapted to be used for various purposes other than signaling and other railroad work. The lantern may also be furnished with an auxiliary oil or gas lamp for use in emergencies when the electric lamp gives out.

One of the principal objects of my invention is to provide a simple and efficient lantern, carrying its own oil supply and its own source of electric energy, preferably in the form of the well known dry battery, the lantern being provided with simple and efficient circuit controlling means, the same being preferably operated by means of a bail or handle by which also the lantern may be suspended and carried about.

Other objects of the invention will be disclosed in the following specification.

The invention consists in the novel construction, arrangement and combination of various devices and parts, as illustrated in the accompanying drawings and fully described in the following specification.

In the accompanying drawings, Figure 1 is a general view in front elevation of a lantern constructed according to my invention; Fig. 2 is a vertical section through the upper part of such a lantern; Fig. 3 is a vertical section of such upper part, taken along a line at right angles to the section shown in Fig. 2, and is a sectional view similar to Fig. 2, showing the lantern bail raised and the circuit controlling devices in the circuit closing position; Fig. 4 is a sectional view similar to Fig. 3, but showing the bail lowered on one side of the lantern and the circuit open; Fig. 5 is a similar sectional view, showing the bail lowered on the opposite side of the lantern to that shown in Fig. 4, and the circuit closed; Fig. 6 is a sectional view similar to Fig. 2, but showing the circuit opened as hereinafter described; Fig. 7 is a view of another modified form of the invention, particularly of the circuit controlling devices, Figs. 8, 9, 10 and 11 are detail views hereinafter more particularly described, and Fig. 12 is a general view partly in section showing an auxiliary oil or gas lamp for use in connection with the other features of the invention.

In carrying my invention into effect, in the embodiments thereof which I have selected for illustration and description in this application, I provide a lantern, which I have shown in Fig. 1 of the accompanying drawings as of a well-known type, comprising a base 15, a protecting framework comprising curved vertical members 16 and a circular horizontal member 17, and a top comprising a flaring portion 18 and a cylindrical portion 19 capping the same.

A bail or handle 20 is pivotally secured to the cap 19, being adapted as is usual in lanterns of this type, to swing downward on either side of the lantern or to be elevated and used as a handle for carrying the lantern about.

The dry cells 21 or other source of electric current are contained in the hollow base portion 15, the bottom 22 of which base portion is hinged at 23 so that it can be opened to insert, remove or replace the battery, being secured by a spring catch or other suitable means. Proper contact strips or other suitable devices forming part of the electric circuit are provided in the bottom portion 15, contacting with suitable contacts on the battery, and one or more wires forming part of the electric circuit lead upward to the circuit controlling devices in the upper part of the lantern as will be hereinafter more particularly described.

The arrangement of the battery and the contacts for taking the current therefrom may be of any suitable type and arrangement, and as the same form no part of my present invention, they need not be described in detail. The circuit leading to the controlling devices in the upper part of the lantern may consist in part of a wire running through one of the upright frame members 16, which are hollow and which are accordingly well adapted to serve as a sheathing for such wire; and a part of the return circuit may if desired be made through the framework of the lantern in a

manner which will be well understood, the wire forming a part of the said circuit being of course in such case properly insulated from the framework.

An electric lamp 24 is suitably placed in the lower part of the lantern; this lamp is preferably of the well known type of small incandescent bulbs, having a screw base which is secured in a suitable socket 25 which is provided with the usual contacts.

The socket 25 is rigidly secured to the top of a dome-shaped support 70. The electric circuit leads from the socket 25, one part thereof going to the battery and the other to the circuit controlling devices in the upper part of the lantern, hereinafter to be described.

Toward one side of the above-mentioned dome-shaped support 70 is an opening through which the burner 71 of an oil tank or gas generator 72 is adapted to pass. The tank or generator is dome-shaped, and is adapted to fit under the dome-shaped support 70. At one side of the base of the dome-shaped support 70, I provide a laterally extending lug 75, (see Fig. 12) adapted to support one side of the tank or generator 72. At the opposite side of the said dome-shaped support 70 I provide a laterally extending support 76 adapted to hinge downward, but held in the horizontal position by the spring 77. When it is desired to insert the tank or generator 72 into place under the dome-shaped support 70, the bottom of the lantern is unhinged and the batteries temporarily removed. The support 76 is then hinged downward, allowing the tank or generator 72 to be inserted so that one side thereof shall rest on the lug 75, and the tube 71 passing through the opening provided for the purpose in the support 70. The hinged support 76 is then released, so as to support the side of the tank or generator 72 opposite to the side supported by the lug 75. The batteries may now be replaced and the bottom of the lantern closed. At the outer end of the tube 71 is removably secured a burner adapted for the combustion of oil or gas. This burner may be removed for the purpose of filling the tank or generator, and afterward replaced.

Referring now more particularly to Figs. 2, 3, 4 and 5, it will be seen that located within the lower part of the cap 19 is a transverse rod 30 the ends of which are secured by screws 31. This rod 30 is of fiber or other suitable non-conducting material, and is provided with a sleeve 32 of sheet brass or other suitable conducting material, the same being secured to the rod 30 by a set screw 33. A recess 34 is cut in one side of the rod 30 to receive the disk 40 hereinafter described. The conducting sleeve 32 is connected with one branch of the electric circuit leading to the lamp socket 25.

Journaled in the cap 19, somewhat above the rod 30, is a shaft 41, having fast thereon a disk 40. This disk 40, in the embodiment of the invention shown in Figs. 2, 3, 4 and 5, has a portion of its periphery cut away so as to form a somewhat wide notch or open part, as will clearly be seen in Figs. 3, 4, and 5. The edges of the notch are slightly bent or twisted out of the general plane of the disk, as is shown at 43 in Fig. 2.

The rod 41 is journaled in the cap 19 sufficiently loose to permit of easy rotation, and it also has, normally, some slight longitudinal play; a helical spring 44 (see Fig. 2) is provided, one end of which bears against the inside of the cap 19 and the other against the disk 40, taking up such play and tending to push the rod 41 toward the left in Fig. 2. The bail 20 is secured to the rod 41, at one end by the screw 45 and at the other end by the thumb screw 46, the rod 41 at that end being screw-threaded to receive same. In the embodiment of the invention shown in Fig. 2 the screw 45 is tightened upon the bail 20, so that the bail is fast with the rod 41 and so that swinging the bail operates to rotate the rod.

It will be obvious that screwing down the thumb screw 46 slightly compresses or flattens the cap 19 and tends to draw the rod 41 to the right in Fig. 2 and thereby to draw the disk 40 away from the sleeve 32 and into the position shown in Fig. 6. On the other hand, loosening the thumb screw 46 has the contrary effect and permits the spring 44 to bring the disk 40 into contact with the sleeve 32. The rod 41 and disk 40 are in electrical contact with the circuit leading to the battery and through the battery to the lamp socket 25; it is obvious therefore that when the disk 40 and the sleeve 32 are in electrical contact, the circuit will be closed and the lamp 24 will light, but when the disk 40 and sleeve 32 are electrically disconnected the circuit will be open and the lamp dead. The part of the circuit leading to the rod 41 may if desired comprise the metallic top of the lantern and the upright frame member 16, as above suggested.

The top of the lantern, comprising the portions 18 and 19 is hinged to the frame, and a suitable spring is provided to hold same when it is closed down upon the frame, in a manner which will be well understood. A glass globe 56 (see Fig. 1) of the usual type may be provided if desired, and in order to obviate the necessity of fitting this globe exactly into the space between the base 15 and the hinged top of the lantern and thus preventing the globe from rattling and possibly being broken, a spiral spring 54 may be interposed between the top of the glass globe and the inner surface of the hinged top.

The operation of the particular embodi-

ment of the invention which has just been described is as follows: When the bail is in its elevated position, as shown in Figs. 2 and 3, the rod 41 and disk 40 are in such position that the periphery of said disk is in electrical contact with the sleeve 32. The circuit is therefore closed and the current passes through the lamp 24 and lights the same. When the bail 20 is swung over into position shown in Fig. 4, the disk 40 is rotated so that the notch or recess in the periphery thereof is adjacent to the sleeve 32 and the disk 40 is therefore not in electric contact with said sleeve and the circuit is therefore open and the lamp dead. When the bail is swung to the other side of the lantern, that is to say in the position shown in Fig. 5, the circuit is closed and the lamp burning. The position shown in Figs. 2 and 3 is that adapted to carrying the lantern with the lamp lighted. The position shown in Fig. 4 is that proper when the lantern is out of use, and the position shown in Fig. 5 is that employed when the light is desired but the lantern is not to be carried about and the bail is preferably swung downward out of the way. When it is desired to carry the lantern about by means of the bail and yet allow the circuit to remain open and the lamp dead, the thumb screw 46 is operated in such a way as to draw the disk 40 out of contact with the sleeve 32. The edges 43 of the peripheral notch of the disk 40 are bent or twisted as shown in Fig. 2 in order that the said edges may easily slide over the end of the sleeve 32 when the disk is rotated from the position shown in Fig. 4 into the position shown, for instance in Fig. 3; were it not for this bending or twisting of the said edges, the notch of said disk 40 would be apt to straddle over the sleeve 32 and prevent the disk from being rotated so as to allow the bail to be elevated.

In case, through any accident, or on account of the electric battery becoming worn out or the lamp burning out, the electric lamp should become inoperative, the top of the lantern is unhinged, thus allowing the globe 56 to be removed and the oil or gas lamp lighted and used in place of the electric lamp, the globe of course being replaced after the lamp is lighted.

In Fig. 8 I show a modified form of the circuit-controlling disk. In this figure, 50 represents the disk, fast on the shaft 41 as in the form already described, but instead of an opening or notch as in the first described form, a portion of the disk is pressed laterally out of the main plane of the disk so as to form a recess therein, which performs a circuit breaking function analogous to the peripheral opening or space in the disk 40, the difference being that while in the disk 40 the space is formed by an actual removal of the metal of the disk, the modified form of disk 50 is entire. This modified form of disk is seen in edge view in Fig. 7.

In Fig. 7 I show a modified form of part of the mechanism. In this form the rod 41 is shown bearing a disk 50 of the modified form just described, and a spring 44 operates as has already been described. The bail 55 in this form however is loose on the rod 41, being held loosely thereon at one end by the milled head 56 and at the other end by a nut 57. This modification of the invention is adapted for use where it is desired to carry the lantern about by the bail and to elevate or depress the said bail as desired without affecting the circuit, the circuit being controlled by rotating the rod 41 by means of the milled head 56.

Figs. 9, 10 and 11 are detail views showing the small bracket or fitting in which are set the rods 30 and 41 (see Figs. 2 and 6). Fig. 9 is a view of one of such brackets showing the rods 30 and 41 in transverse section along the line x—x of Fig. 6 and Fig. 10 is a view of one of said brackets showing the rods in vertical section along the line y—y of Fig. 6; Fig. 11 is a perspective view of one of the brackets standing alone.

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

1. In an electric lantern the combination with a supporting frame or casing, an electric lamp, a source of electric energy, and a circuit; of means for controlling said circuit comprising a rotatable rod journaled in the said frame or casing and connected with one side of said circuit, a second rod supported by said frame or casing and connected with the other side of said circuit, and conducting means secured to said first named rod and adapted to make or break contact with the circuit terminal on said second named rod as said first named rod is operated, said means comprising a disk on said rotatable rod, and means adapted to rotate said first named rod and also to carry the lantern, said means comprising a bail rigidly secured to the ends of said first named rod.

2. In an electric lantern the combination with a supporting frame or casing, an electric lamp, a source of electric energy, and a circuit; of means for controlling said circuit comprising a rotatable rod journaled in the said frame or casing and connected with one side of said circuit, a second rod supported by said frame or casing and connected with the other side of said circuit, and conducting means secured to said first named rod and adapted to make or break contact with the circuit terminal on said second named rod as said first named rod is operated; said conducting means comprising a disk

fast on said rotatable rod, said disk being provided with a peripheral opening or notch, and means adapted to rotate said first named rod and also to carry the lantern, said means comprising a bail rigidly secured to the ends of said first named rod.

3. In an electric lantern the combination with a supporting frame or casing, an electric lamp, a source of electric energy, and a circuit; of means for controlling said circuit comprising a rotatable rod journaled in the said frame or casing and connected with one side of said circuit, a second rod supported by said frame or casing and connected with the other side of said circuit, and conducting means secured to said first named rod and adapted to make or break contact with the circuit terminal on said second named rod as said first named rod is operated; said conducting means comprising a disk fast on said rotatable rod, a portion of the periphery of said disk lying out of the plane of the main portion of the disk, and means adapted to rotate said first named rod and also to carry the lantern, said means comprising a bail rigidly secured to the ends of said first named rod.

4. In an electric lantern the combination with a supporting frame or casing, an electric lamp, a source of electric energy, and a circuit; of means for controlling said circuit comprising a rotatable rod journaled in the said frame or casing and connected with one side of said circuit, a second rod supported by said frame or casing and connected with the other side of said circuit, a circuit closer on said rotatable rod adapted to contact with the circuit terminal on said second named rod, and means adapted to rotate said first named rod and also to carry the lantern, comprising a bail rigidly secured to the ends of said first named rod.

5. As a new article of manufacture, a lantern comprising a frame, an electric lamp, a base of convex form, therefor, a source of electric energy located within said lantern, a circuit, means for opening and closing said circuit, a detachable receptacle adapted to fit within said base and to contain combustible material, and a burner rigidly attached to said receptacle and projecting through said base.

6. As a new article of manufacture, a lantern comprising a frame, an electric lamp, a dome-shaped base therefor, a source of electric energy located within said lantern, a circuit, means for opening and closing said circuit, a detachable dome-shaped receptacle adapted to fit within said dome-shaped base and to contain combustible material, and a burner rigidly attached to said dome-shaped receptacle and projecting through said dome-shaped base.

In witness whereof I have hereunto signed my name this 1st day of October, 1913, in the presence of two subscribing witnesses.

LLOYD GILBERT SPENCER.

Witnesses:
ROBERT T. CLARK,
FLORENCE M. GRAY.