G. E. WERNER

ELECTRIC LAMP.

APPLICATION FILED SEPT. 26, 1916.

1,249,574. Patented Dec. 11, 1917.

Fig. 1.

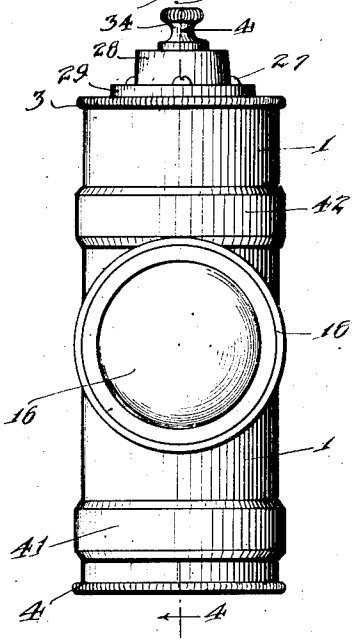


Fig. 2.

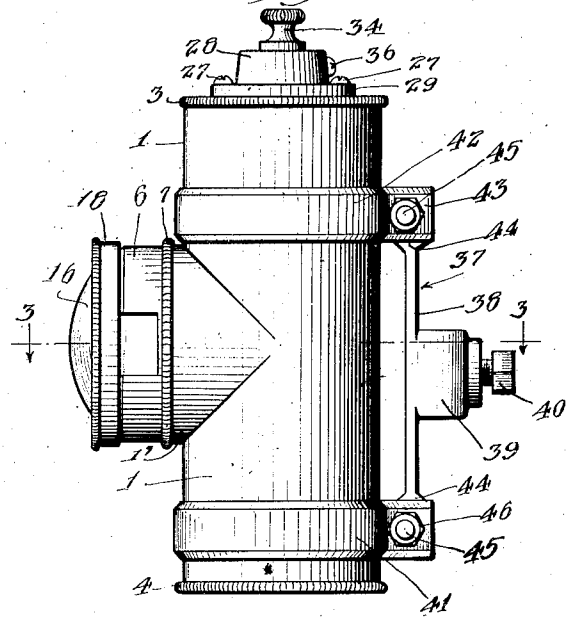


Fig. 3.

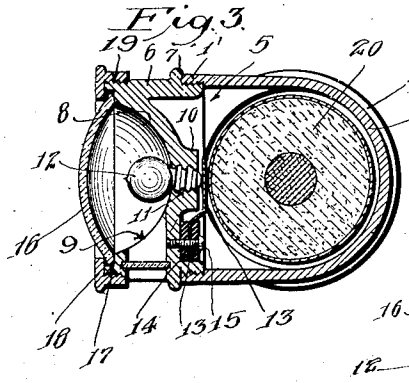


Fig. 4.

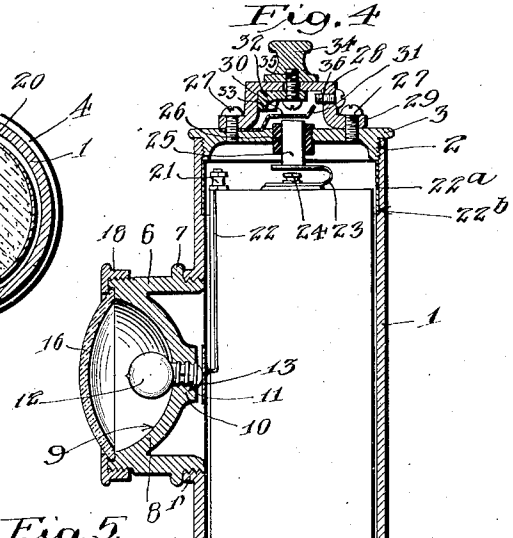
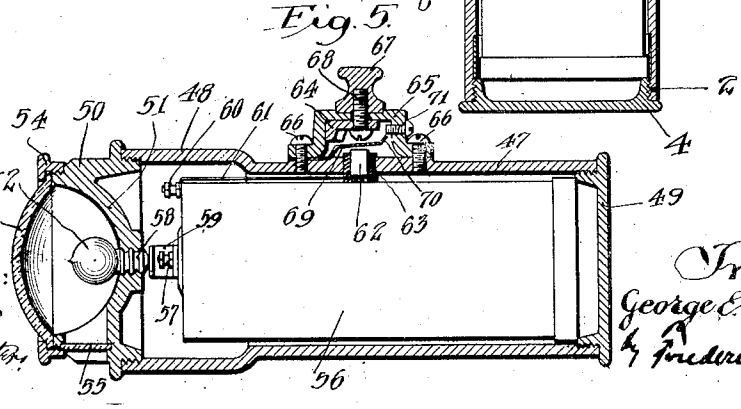


Fig. 5.



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ELECTRIC LAMP.

1,249,574. Specification of Letters Patent. Patented Dec. 11, 1917.

Application filed September 26, 1916. Serial No. 122,232.

To all whom it may concern:

Be it known that I, GEORGE E. WERNER, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Electric Lamp, of which the following is a specification.

This invention relates to improvements in electrical lamps for vehicles and has for its primary object to provide a vehicle lamp which is simple in construction, inexpensive to operate, durable, waterproof and will not "short circuit."

Another object is to provide a lamp of the character described in which the source of current, a standard dry battery, is carried in the lamp casing, said casing snugly and removably receiving the battery.

A further object is to provide an electrical vehicle lamp, the body of which principally comprises a casting of durable uniform construction that is inexpensive to produce.

A still further object is to provide a lamp of the character described which can be used as a tail lamp for vehicles and may be reversed so that it can be attached to either the right or the left side of the vehicle.

An additional object is to provide an electrical vehicle lamp of the character described, which, because of the fact that all possibility of short-circuiting is eliminated, all danger of a spark igniting dangerous gases is removed.

The accompanying drawings illustrate the invention:

Figure 1 is a front elevation of the lamp;

Fig. 2 is a side elevation;

Fig. 3 is a horizontal sectional view taken on line 3—3 of Fig. 2;

Fig. 4 is a vertical sectional view taken on line 4—4 of Fig. 1; and

Fig. 5 is a longitudinal sectional view of a modified form of lamp.

Referring to the drawings, 1 designates a preferably cylindrical housing or casing formed of some light metal such as aluminum and having its ends open and internally screw-threaded as at 2. Flanged caps 3 and 4 are mounted upon the upper and lower ends of the casing 1 respectively, the flanges being located in inwardly offset relation to the periphery of the caps whereby the caps project beyond the side of the casing and render the closures water and dust-proof.

An internally screw-threaded tubular projection 1′ is formed intermediate the ends of the housing 1 on one side thereof, there being provided an opening 5 in the housing approximately equal in diameter to that of the inside diameter of the projection. A tubular member 6 having external screw-threads upon its inner end is turned within the screw-threaded projection 1′ and projects outwardly at right-angles to the housing. An annular knurled bead 7 is formed on the outer side of the tubular member 6 and abuts the outer edge of the projection 1′. The tubular member 6 is in the form of a casting and includes a concavo convex reflector 8 which is polished upon its concave face 9 and centrally is formed with a boss 10. The boss 10 is provided with a screw-threaded opening 11 extending therethrough and into this opening is turned an electric globe 12, the inner end of which extends beyond the boss and abuts a resilient flat contact plate 13, said plate being held in a recessed insulation strip 14 secured upon the interior of the member 6 rearwardly of the reflector 8 by a screw 15. The screw 15 passes through a large opening in the plate 13 and does not touch said plate. A concavo convex lens 16 is mounted within an annular recess 17 formed upon the inner face of the member 6 and held in place by a flanged ring 18, the latter being internally screw-threaded and turned upon screw-threads 19 formed upon the outer end of the member 6.

A standard dry cell 20 is mounted within the housing 1 and the housing is of such diameter as to snugly receive the cell so as to prevent rattling and eliminate relative movement between the cell and housing. The negative binding post 21 of the battery is connected with the contact plate 13 by a conductor 22 and there is provided a band 22^a of insulation material between the post 21 and housing 1. The housing 1 is recessed interiorly at its upper end as at 22^b to receive the insulation band 22^a and if desired the recess may be formed in both ends of the device so that when the lamp is reversed the band may be placed in the opposite end from that which is shown in the drawings and held in position in the recess. A spring contact plate 23 is connected with the positive binding post 24 of the battery and lies in superposed relation to said binding post in engagement with a contact plug 25 which is inserted through the cap 3 and extends through insulating bushing 26. Se-

cured by screws 27 upon the cap 3 is a cylindrical cap 28 which is provided upon its lower side with an annular flange 29. The screws 27 extend through the side flange and into the cap 3. A spring contact plate 30 is mounted within the cap 28 and held in position by one of the screws 27, said plate 30 being extended over and upon the upper end of the plug 25. The free end of the plate 30 is upturned as at 31 and adapted for coöperation with a movable contact plate 32, said plate having a depending flange 33 thereon which is adapted to engage the upturned end 31. A knurled button 34 is rotatably mounted upon the top of the cap 28, a screw 35 being inserted through an aperture in the cap 28 and connected with the plate 32 and the button 34. A stop member 36 is mounted within the cap and limits the movement of the plate 32.

There is provided a bracket 37 for securing the lamp to the vehicle and said bracket comprises a vertical bar 38 formed intermediate the ends of which is a slotted casting 39 which is adapted to receive some projecting member not shown mounted on the vehicle. A set screw 40 is provided to secure the bracket in position. Split rings 41 and 42 are mounted upon the housing 1 upon opposite sides of the tubular member 6 and are provided with ears 43 between which the flattened right-angularly bent ends 44 of the bar 38 extend. These portions 44 are apertured and aline with apertures in the ears so as to receive bolts 45, and nuts 46 are turned upon said bolts. The housing 1 is free to turn in the rings 41 and 42 and therefore may be adjusted to the desired position, it being possible to hold the housing in the desired position by tightening the nuts 46.

In operation, the button 34 is turned so as to bring the contact plate 32 into engagement with the contact plate 30, the stop pin 36 limiting the movement of the member 32 and this closes the circuit for the lamp 12, since one side of the circuit is grounded in the casing and the other side leads directly to the lamp through the conductor 25.

One of the most essential features of this invention is the absence of vibration and elimination of relative movement between the parts. The lamp is constructed of heavy, durable, compact parts so associated that the battery 20 is not permitted relative movement and all possibility of a "short" occurring in the circuit is therefore eliminated. Another advantage of the invention is that the casing and coöperating parts are positively waterproof, this being due to the fact that the caps have their flanges inwardly offset and provide overhanging portions which prevent rain or water from entering the interior of the housing. If desired, the lamp may be removed from the vehicle, the bracket serving as a handle, for use as a spot or trouble light.

Referring particularly to Fig. 5 wherein I have illustrated a modified form of the invention, 47 designates a cylindrical housing constructed similarly to the housing 1 and open at both ends, the forward end thereof being enlarged as at 48 for a purpose to be later more fully described. A flanged cap 49 similar to the cap 4 is turned in the rear end of the housing and a cylindrical casting 50 similar to the tubular member 6 is turned in the enlarged end 48 of the housing. The casting 50 includes a concavo convex reflector 51 similar to the reflector 8 and an electric globe 52 is mounted centrally of and upon the reflector. A lens 53 is held in position upon the member 50 by a retaining ring 54. The member 50 is formed with an opening in one side thereof and a glass plate 55 covers said opening to provide for the illumination of a license plate, not shown. A dry cell 56 is mounted within the housing and has its positive binding post 57 electrically engaged with the plug portion 58 of the globe 52 by means of a spring contact plate 59. Extending from the negative binding post 60 of the battery is a conductor 61 which is connected with the contact plug 62 mounted within the side of the housing and extending outwardly therefrom, said plug 62 being insulated by a bushing 63 and adapted for coöperation with a movable contact member 64 which is identical with the contact member 32. This member 64 is carried within the housing 65 secured by screws 66 upon the outer side of the casing 47 and a knurled button 67 is connected with the member 64 by a screw 68 to provide for the rotation of said member 64 upon the turn of the button 67. A resilient contact plate 69 is secured between the housings 65 and casing 47 and extends over and upon the plug 62 with its free end upturned as at 70, said free end being adapted to coöperate with the member 64 to close the circuit through the globe 52. A stop pin 71 is provided to limit the movement of the member 64. The operation of this form is the same as described in connection with the preferred form of the invention and this form possesses all of the durability and aforementioned advantages of the preferred form.

I claim:

1. In an electrical vehicle lamp, a cylindrical casing adapted to receive a standard dry battery having binding posts, said casing being open at both ends, caps closing the ends of the casing, a tubular projection extending from one side of the casing intermediate the ends thereof, an electric lamp within the projection, a lens carried by the projection, said casing and projection being of conducting material, a conducting plate

engaging one of the contacts of the lamp and secured within said projection, a conductor connected with one of the binding posts and said conducting plate, a conducting member connected with the other binding post of the battery, a contact plug engaging the conducting member and insulated from the casing, a movable contact member normally free from engagement with the plug and electrically connected with the casing, and means to move said last named contact member into engagement with the plug to close the circuit for the lamp.

2. In an electrical lamp, a casing adapted to contain a standard dry cell having binding posts, an electrical lamp, means to electrically connect one of the binding posts of the battery directly with the lamp, a housing carried by the casing, a contact plug extended into the casing and insulated therefrom, a contact member connected with the casing and mounted within the housing, said contact member being normally spaced from the contact plug, an electrical connection between the contact plug and the other binding post of the battery, a contact operating member rotatable within the housing and adapted to engage and move the contact member into engagement with the contact plug, and a button for operating said contact operating member rotatably mounted upon and exteriorly of the housing.

Signed at Los Angeles, California, this 19th day of September, 1916.

GEORGE E. WERNER.

Witnesses:
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