Dec. 21, 1948. E. E. WEBER 2,457,019

SIGNAL LAMP

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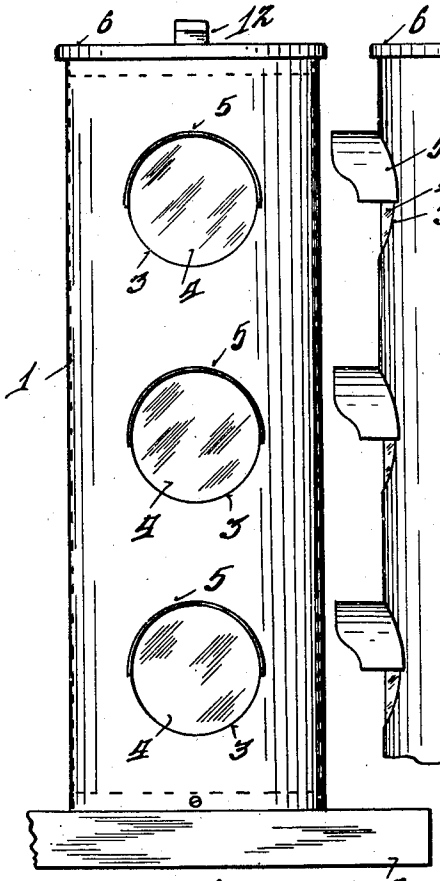

Fig. 1.

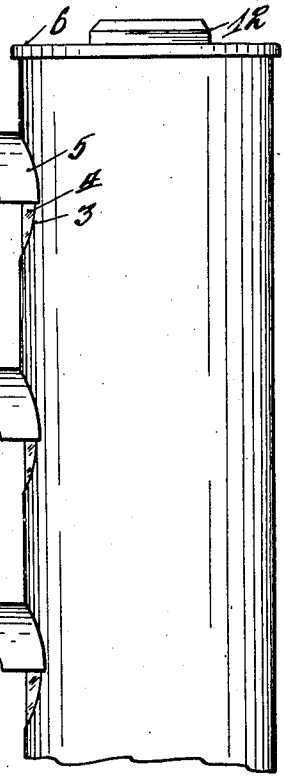

Fig. 2.

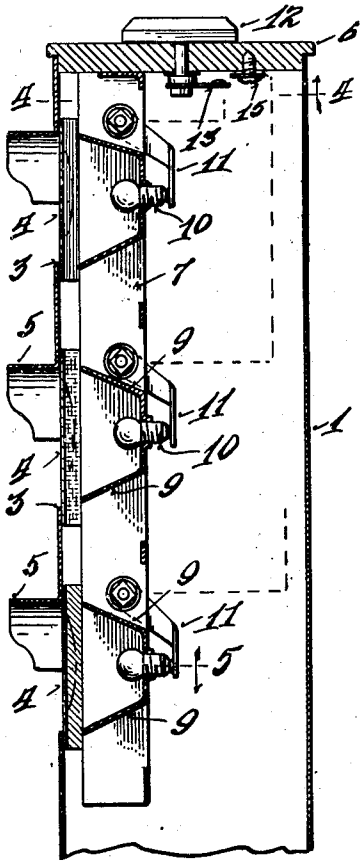

Fig. 3.

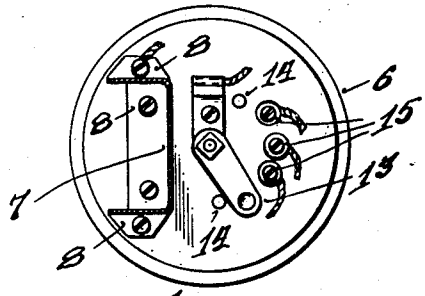

Fig. 4.

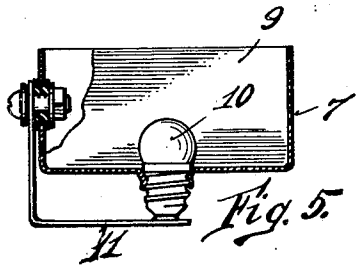

Fig. 5.

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SIGNAL LAMP

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2 Claims. (Cl. 177—337)

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This invention relates to improvements in signal lamps for selectively displaying different color light signals, as for thoroughfare traffic direction or crossing control and guidance.

An object of the invention is to provide a multi-colored light signal displaying electric lamp of simple, cheap and light weight construction, capable of production, marketing and use as a child's toy, either as a self-sustaining portable unit or for ready application upon a post or other type of stationary support.

In its embodiment as a toy, miniature low voltage electric light bulbs are employed with the electric power therefore supplied by dry cell electric batteries adapted for encasement and storage with the lamp casing and the electric current circuits from the battery source to the light bulbs selectively controlled by a single manually operated switch accessible from the exterior of the casing of the lamp so as to comprise a self-contained portable unit, although the electric current supply source and circuit controlling means for the several light bulbs may be remote from the lamp.

Another object of the invention is to provide a signal lamp for selectively displaying different multi-colored signals and embodying a fixture of multi-light reflectors formed of a single sheet of metal, the reflectors each confining the light emanating from a light source within the reflector for relatively displaying different colored light signals, the fixture fixed to and suspending or extending from a cap, as a closure for one end for a sheet metal pipe, into which the reflector fixture is extended and sustained by the cap for encasement, the reflectors of the fixture each respectively in registration with an aperture through the casing, the aperture covered by a transparent pane.

Various other features and advantages of the invention will be more fully set forth in the following description of the accompanying drawings, forming a part hereof and depicting a preferred embodiment, in which:

Figure 1 is a front elevation of the lamp, supplied with a base for sustaining the lamp as a self-contained and portable unit.

Figure 2 is a side elevation with the base omitted.

Figure 3 is a central vertical section through the lamp.

Figure 4 is a section on line 4, 4, Figure 3, with the casing omitted.

Figure 5 is an enlarged section on line 5, Figure 3, of the deflector and electric light bulb carrying fixture.

As a contemplated use of the lamp is as a child's toy, to be stationed at random in relation to a lane or walk used by children for riding pedal bikes, propelling toy wagons or transporting other vehicular apparatus and thereby offering traffic

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signal educational advantages and entertainment to a child, it is essential that the construction of the lamp be simple, with a minimum number of parts for low cost construction and sale, recognizing that in some of its detail alteration can be readily made within the concept as shown, for better durability when the service of the lamp is extended beyond that as a toy.

Referring to the drawings, 1, indicates a cylindrical casing, primarily constituting a section of determined length and diameter size of conventional sheet metal down spout or vent pipe, to permit its lower end to be readily conveniently engaged upon the end of a post or support or connected to an end of a corresponding size and selected length of pipe readily commercially available for a stationary and elevated mounting of the lamp. For portable use, as shown in Fig. 1, the lower end of the casing is provided with a wooden flat base 2, or other type of base, upon and to which the casing is socketed and fixed.

The casing longitudinally in aligned spacing or tier arrangement is provided with a plurality of apertures 3, therethrough, as window openings, three in number being included as shown to simulate a three different colored light system of conventional thoroughfare traffic directing signal lamp in which the different colored light signals are displayed in a consecutive order. The casing apertures or light emitting openings are shown, each as covered with a transparent film or sheet 4, as of cellulose material, adhesively applied upon the interior side of the casing, as a pane for the opening, with the several panes relatively of different color and respectively as red, amber and green. It is recognized that the panes can be constructed as of lens form made of glass or transparent moldable plastic material, each bezel bound or rimmed and equipped for making a snap-on or other connection with the casing. For a toy, a flexible colored transparent sheet serves admirably, being replaced when one is torn or disrupted and presenting no hazard, as would a more rigid and fragile material.

An arc shaped shield 5 extends laterally from the exterior of the casing, one respectively for each light opening bordering the upper half section thereof. The upper end of the casing is closed by a cap 6, having a socketed connection therewith and provides a support, removable from the casing, for an electric light bulb socketing and multi-deflector fixture 7, fixed to and extending from the inner side of the cap to depend therefrom longtiudinally of and into the casing when the cap is applied as an end closure for the casing.

The cap for a portable type of toy lamp, is preferably of an electric insulation material, as wood, for directly mounting thereon the various elements of a manually operative electric circuit

controlling switch, so that the cover unitarily sustains all of the working elements of the lamp.

The multi-deflector fixture 7 is formed of a single sheet of metal of channel form in cross section, which at one end has its web and side walls flanged by bending the ends thereof laterally providing tabs 8 for securing the fixture to the inner side of the cap 6. The web of the channel at determinately spaced intervals is transversely slitted for its full width, the slit at each of its opposite ends extending at right angles along the corners of the web and side walls to a degree necessary upon folding the section of the web bounded by the slitting inwardly and at a determined angle, bringing its free transverse edge in line with the edges of the side walls and divergently to a second consecutive section with which it joins to provide opposing wall sections 9, 9, and with relative portions of the side walls of the channel dish the fixture form a reflector. Such detail of construction is duplicated to provide a series or plurality of deflectors longitudinally of the fixture, in tier arrangement for the number of reflectors desired. The web portion of the channel forming the bottom of a deflector is punctured, preferably centrally of the deflector, for socketing an electric light bulb 10. The puncturing of the metal forms an outwardly extended flange or burr, which is machined for screw thread cooperation with the threads of the stud, as the base of an electric light bulb for securely and removably mounted the bulb within the reflector.

The fixture for each reflector has a yielding conductor or contact finger 11, fixed to and insulated from a side wall of the channel with its free end bent to extend and overlie the socket opening of a reflector for making an electric circuit connection with the stud end or base of the light bulb.

The spacing of the reflectors when the fixture is suspended longitudinally within the casing 1, exposes and respectively registers each reflector with a relative window or opening 3, through the casing 1.

The lamp for a self-contained unit has a manually actuated electric circuit controlling switch mounted upon the inner side of the cap 6, operative from the outerside by a handle 12. The handle 12 connects with a movable switch member 13, at the underside of the cap, limited in its arc of rotation by a pair of suitably spaced stops 14, 14, extending from the underside of the cap. The movable switch member 13, in its arc of movement from a neutral position passes over to consecutively engage with a series of stationary contacts 15, each having a conductor connected thereto, as shown in dash lines Figure 3, leading to and connecting with a respective conductor finger 10, mounted upon the reflector fixture for making a circuit connection with a light bulb of a reflector. The reflector fixture connects with one terminal or pole of a battery or power source and the movable switch member 13, with the opposite terminal or pole of the power source.

Thus in a full arc of movement of the movable switch member 13, in alternate directions, as from and back to its neutral position it is brought into consecutive contact with the stationary contacts 15, of the series, relatively flashing each electric light bulb and each can be held active for a period desired by the operator.

The circuit control for the light bulbs and type

of mechanical means for the electric circuit control is optional and may be from a point remote from the lamp. The casing is of sufficient diameter, when the reflector is equipped with only a single deflector fixture for installing a set of required number of dry cell electric batteries therein, particularly when of a size, as conventionally employed for hand flash lamps, and may be applied or clipped upon the reflector fixture to be in unity therewith offering compactness and convenience in the renewal of the batteries.

It is obvious that the lamp may be provided with a plurality of reflector fixtures for relatively different directional signal display, as from fore and aft and relative right and left sides for a four-way display, with the circuit control for the electric light bulbs to meet the desires of the user, which in detail is recognized as an expediency independent of and forming no part of the present invention.

The lamp casing constituted as a section or determined length size of drain spout or vent pipe, may be any post size length, offering sufficient stability when the lower end is imbedded in the ground for permanently locating the lamp, for service other than a toy as for example along a private lane leading from a garage, or for call signals within a plant.

Having described my invention, I claim:

1. An electric signal lamp, comprising a casing having a plurality of window openings in spaced alignment longitudinally thereof, a closure cap for one end of the casing, and an electric light bulb sustaining and reflector fixture consisting of a sheet metal strip of channel form in cross-section having sections of the web at intervals longitudinally thereof bent laterally inward of the channel in opposing divergent pairs, each pair, with a portion of each of the side walls of the channel therebetween providing a reflector in registration with a relative window opening in the casing for an electric light bulb socketed in an aperture of the web intervening and from which a pair of sections of the web diverge, said fixture having an end thereof fixed to said cap to dependingly sustain the same within the casing.

2. A fixture for sustaining and providing a reflector for each of a plurality of electric light bulbs in a spaced aligned arrangement, consisting of a sheet metal strip of channel form in cross section having sections of the web thereof bent laterally inward of the channel in opposing divergent pairs, each pair with a portion of the side walls of the channel therebetween providing a reflector for a light bulb socketed within an aperture in section of the web intervening and from which a pair of web sections diverge.

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