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2,431,091

MULTI-COLORED ELECTRIC FLASHLIGHT

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Fig. 1

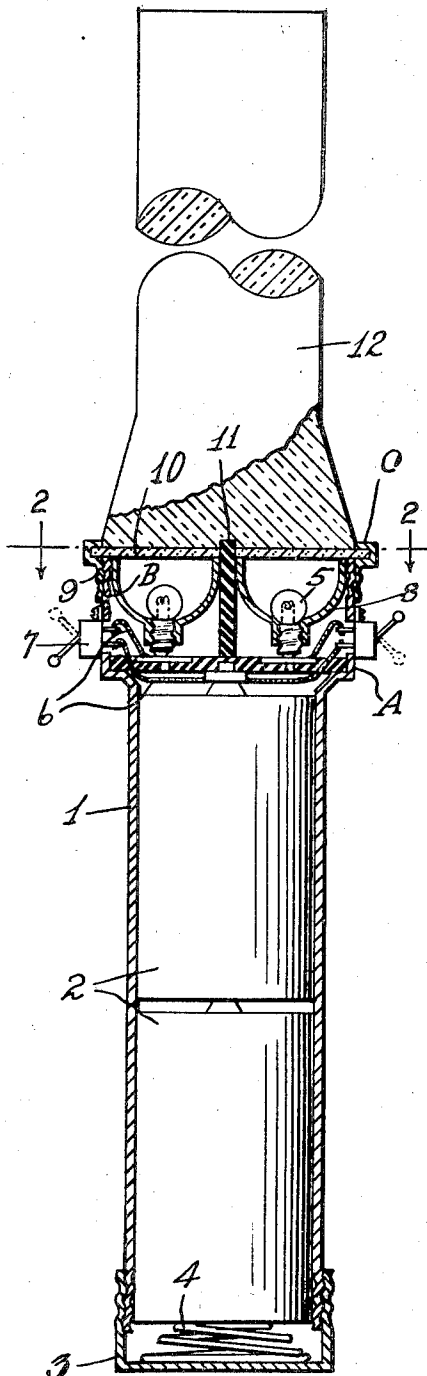


Fig. 2

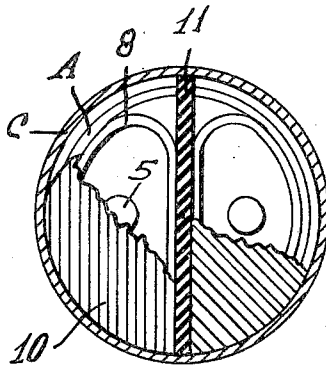


Fig. 3

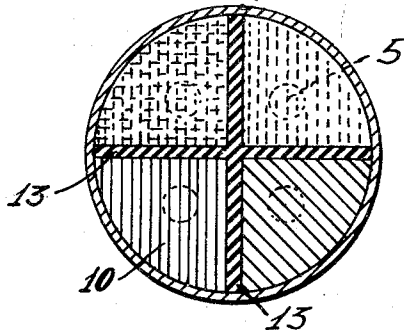


Fig. 4

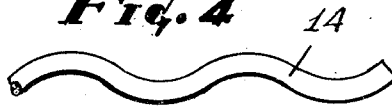
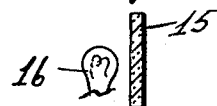


Fig. 5



Fig. 6



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MULTICOLORED ELECTRIC FLASHLIGHT

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2 Claims. (Cl. 177-327)

1

My invention relates to a traffic signal device and has for its principal object means for the illumination of a partially or totally translucent clear crystal body using same as a common medium for light of various colors within the spectrum, one or more colors being reflected into the body, separately or simultaneously to produce a desired color.

A further object is to provide a plastic body that may be illuminated by means of different colored electric light bulbs, selectively of any candle power by switch controls.

A still further object is to provide a plastic body illuminated by means of uncolored bulbs and the light waves filtering through any desired color or filter either attached to or separate from the base of the plastic body.

A still further object of this invention is to produce a structure embodying a casing for batteries, lamp sockets, and a light reflective solid plastic body, the lamps being separated from each other by opaque sheets and a switch mechanism to selectively energize one of the lamps whereby a base color will predominate the light reflective body and by energizing other basic colors simultaneously is means to effect a composite color, for example, to combine yellow and blue will produce green as the composite and such other composites will lie within the scope of this invention.

These and other objects will hereinafter be more fully explained, reference being had to the accompanying drawing forming a part of this specification, and in which like characters will apply to like parts in the different views.

Referring to the drawing:

Fig. 1 is a side view of the invention, partly in section for convenience of illustration.

Fig. 2 is a sectional view taken on line 2-2 in Fig. 1 wherein two light bulbs are involved and divided from each other, and showing colored translucent sheets of material to enclose said light bulbs that preferably are clear.

Fig. 3 is a similar view to that of Fig. 2, but modified to include four light bulbs that are likewise separately divided.

Fig. 4 is a side view of a cylindrical conductor for light rays longitudinally of the structure formed by reversed curvatures longitudinally of the structure.

Fig. 5 is a representation of a sign produced by light rays through a transparent body of such material as embodied in Fig. 1 with respect to its light reflective body.

2

Fig. 6 is an edge view of Fig. 5, to illustrate one position of a light bulb for the reflective body.

As a more concise description of the invention it will be seen that a cylindrical element 1 is arranged to contain dry batteries 2 therein and being secured by a cap 3 having a helical spring 4 to tension the batteries toward the other end. Said other end is enlarged to form a head A and arranged for a plurality of light bulbs 5 and wire means 6 to connect the bulbs with the current of the batteries, each bulb having its respective tumbler switch 7 to make and break the current selectively with respect to bulbs and the said bulbs to threadedly engage in their respective reflectors 8 to intensify the light rays.

It will be seen that the upper portion of head A is threaded externally as at B to threadedly engage internally of a flange 9, the upper extremity of which is arranged with an annular portion C integrally jointed to the flange and extending around a disc-like element 10 that is diametrically divided for simplicity of assembly and to receive an opaque partition 11 between its inner diametrical edges whereby the light bulbs and their respective reflectors are divided and the sides of the said disc-like element are of different colors and being secured to a transparent light ray conducting element 12 that extends upward in axial alignment with the cylindrical casing 1, it being understood that the light ray conductor is of solid transparent plastic material, the external surface of which is made translucent by frosting or otherwise treating the same to avoid direct light rays outward therefrom as the same is diffused for an equal distribution of its illuminated condition when either or both light bulbs are energized, the color of which being the same as filtered through the discs.

To install or remove the light bulbs it will be understood that the conductor 12 and its respective disc-like elements 10 are removed from the head A by turning the flange independently of the light ray conductor as the said discs are secured to the conductor and closely engaging on each side of the opaque partition but being free to move upward therefrom during the time the flange is being unscrewed as the same is free to turn on the peripheral edge of the discs.

When four light bulbs are installed in the head, transversely crossing partitions 13 are arranged as shown in Fig. 3, is a modification from that shown in Fig. 2, otherwise the structure is the same.

A further substitution for the light ray exten-

sion is illustrated in Fig. 4 for ornamental designing purpose wherein a cylindrical element 14 is provided and having reversed curvatures, the surface of which is likewise frosted while the light rays are from a light bulb positioned at one end of the last said structure. Said plurally curved element may be clustered or otherwise for design purpose and being illuminated by a bulb at one end of the assembly. In this instance, an efficient supporting means for the lamp and said elements can be arranged but not shown in the drawings and the said plurally curved element may vary with respect to length and arc of the curvatures to carry out some illuminated design as the light rays are conducted from end to end in like manner to the signalling device.

Further possibilities with respect to a transparent body with frosted surfaces may produce a sign as illustrated in Figs. 5 and 6, in this instance, a sheet-like element 15 is provided having one side frosted and the other clear with a lamp 16 positioned in working relation to the clear side and being spaced therefrom so that the light rays from the lamp will illuminate the frosted side uniformly and on which is printed the sign as illustrated, for an example, this arrangement being appropriate for night exposure or where light is subdued.

A further modification for the principle of of light projection may be, for example, applied to a sheet of transparent plastic material having clear sides so that a sign may be placed on one side by frosting the letters of the words only, in this instance the light should be indirect to illuminate the sheet uniformly whereby the sign will stand out prominently and of a color desired but subject to the color of the lamp bulbs installed in the electric wiring; furthermore alternate colored bulbs may be arranged and a switch for each color to flash the same mechanically for attraction to the sign. One principle of indirect illumination would be to provide the equivalent of an illuminant lamp placed a spaced distance from the edges of the sheet and being concealed from view by a suitable channel arrangement so that the light rays will enter at the edge to illuminate the sheet, and in case of a rectangular sheet body, said lamps may be of a different color for their respective edge and flashed accordingly or for a permanent duration of color selectively, and such other modifications may be made as lie within the scope of the appended claims.

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

1. In a traffic signal device, a cylindrical casing adapted to receive a source of electrical energy, a hollow head arranged on one end of the cylindrical casing, a disc of insulating material to close the end of the cylindrical casing on which the hollow head is arranged, opaque partitions to sub-divide the hollow of the head, said partitions being seated on the disc of insulating material and upwardly extending therefrom and terminating a short distance above the head, whereby compartments are formed in the head, a transparent cylindrical body having flat polished ends at right angle to the body, one end of which is

grooved to receive the upper extension of said partitions removably, translucent elements differing in color and marginally formed to coincide with their respective spaces between the grooves in the end of the transparent body to permit seating of the upper edges of the opaque partitions in their respective grooves while the outer ends of the said translucent elements extend into an annular groove surrounding the upper extremity of the hollow head as securing means for the transparent body axial with the cylindrical casing, light bulbs and reflectors positioned in the compartments, wiring means to connect the bulbs with the source of electrical energy, and a separate switch for each bulb to energize the same, selectively, with respect to a signal color required.

2. In a traffic signal device of the class described, comprising a cylindrical casing to receive a source of electrical energy, a head formed on one end of the casing, the head consisting of an annular shoulder outwardly extending at right angle from the wall of the casing and being carried thereby and having a disc carried by the annular shoulder to close the bottom of the head and an annular wall integrally joined to the shoulder at its outer extremity and upwardly extending and being threaded externally to engage a downwardly extending annular flange internally, said flange having an annular channel-like portion formed on the upper extremity of the flange, a disc-like translucent element having a peripheral portion extending into the channel-like element to close the upper end of the head, the said translucent disc being sub-divided diametrically in transverse relation to provide gaps in the disc correspondingly, opaque partitions secured in the head to sub-divide the same inwardly to provide separate compartments, electrical bulbs placed in the compartments to extend light beams upwardly and outwardly through the disc portions, selectively, as sub-divided, switches carried by the said annular wall in spaced relation to light bulbs placed in their respective compartments and wiring means to connect the bulbs to the said source of electrical energy, a transparent cylindrical body externally frosted while its ends are polished to receive and emit light rays through the body, said body being vertically seated on the members of the said sub-divided disc and secured thereto by transparent adhesive substance.

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