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PORTABLE BLINKING WARNING SIGN AND CONTROL HANDLE

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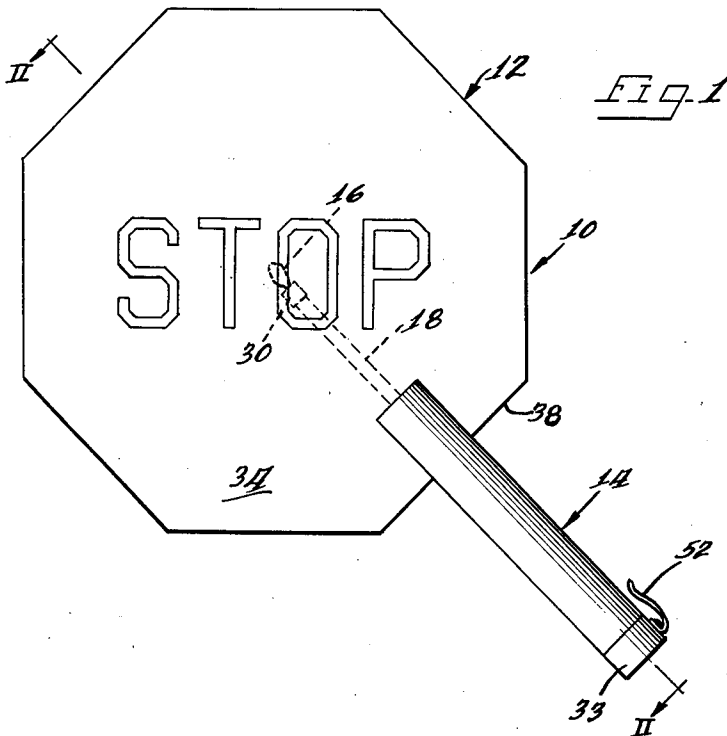


Fig. 3

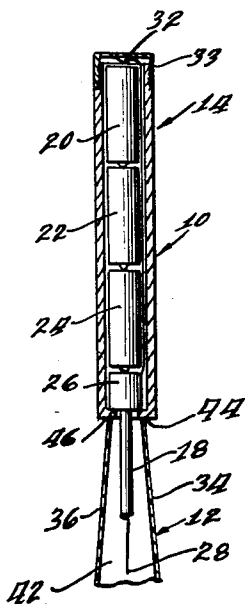
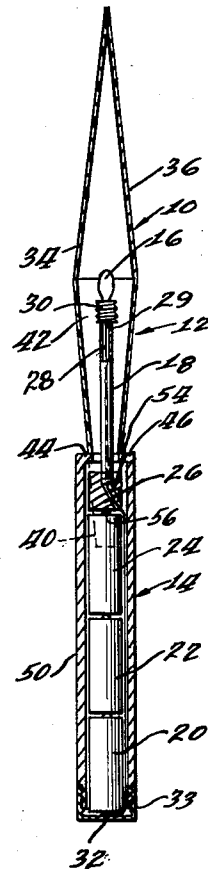


Fig. 2



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3,075,174 PORTABLE BLINKING WARNING SIGN AND CONTROL HANDLE

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2 Claims. (Cl. 340-107)

The present invention relates to a safety sign for school patrols and guides at street crossings, for railroad use, or the like, and more particularly to a safety sign which may be illuminated selectively in accordance with its position.

The present invention provides a safety sign which is exceptionally simple and may be illuminated as desired by raising the sign, without the need for manipulation of a switch or the like. Accordingly, the sign of the invention is especially adapted for use by young people patrolling a crossing or the like, as well as by those whose attention is otherwise fully occupied, as for example, in railroad operations.

In accordance with the invention, a sign adapted to be illuminated from within is mounted on a handle in which batteries are slidably mounted for selective engagement with a contact element on a cap or the like removably connected to the bottom of the handle. At the top of the handle, a metal weight or the like is positioned for contact with the top terminal of the batteries and carries a metal stem having a socket in which is threaded a bulb, preferably of the blinker type. The sign thus houses the light and has formed therein transparent or translucent indicia or letters for contrast and signal effect when the light is energized. For example, the word "Stop" may be formed on opposite sides of the sign and the sides themselves may be of an opaque colored plastic, cut-out metal or other material, connected by suitable means to the handle so as to permit the stem to move therein as carried by the weight referred to.

A circuit for energizing the light is provided by a lead wire extending from the socket through the stem and past the weight and batteries in the handle to the contact on the bottom cap for the handle, with the lead wire affording a predetermined relative movement for the stem. The batteries and weight are retained in the handle by suitable end wall or stop means at the upper end of the handle and together have a length somewhat less than the inner length of the handle. Thereby, when the handle and sign are lowered to a downwardly inclined angle, the batteries and the weight will slide away from the bottom contact on the cap for the handle, to deenergize the light. Conversely, when the handle and the sign are raised, the lowermost battery will engage the contact to energize the light and afford a blinking signal by the illumination of the translucent or transparent indicia on the side walls of the sign.

Accordingly, it is an object of the present invention to provide a gravity operated signal of exceptionally simple construction.

Another object of the invention is to provide a sign as described which may be selectively illuminated by changing the position of the sign.

Other objects and advantages of the invention will become apparent as the description proceeds in accordance with the drawings in which:

FIGURE 1 is a front elevational view of a sign and signal device according to the present invention;

FIGURE 2 is a vertical sectional view taken along the lines II-II of FIGURE 1; and

FIGURE 3 is a vertical sectional view, partly broken away, and showing the sign and signal device in a deenergized position.

Referring now to the drawings, a safety sign 10 is

shown according to the present invention which includes an upper sign structure 12, a lower handle 14 supporting the sign structure 12, a light 16 positioned by a stem 18 within the sign structure 12 and one or more batteries, indicated by reference numerals 20, 22 and 24, for selectively energizing the light 16, as hereinafter further described.

Further in accordance with the invention, the stem 18 is mounted on a weight or other support element 26 within the handle 14 and the stem 18 receives an insulated electrically conductive wire 28 soldered or otherwise secured to a contact 29 on a socket 30 at the upper end of the stem and extending loosely around the weight 26 and the batteries 20 through 24 into electrical connection with a contact 32 at the bottom of the handle 14. The contact 32 may be of any suitable conductive material soldered or otherwise engaged on a cap 33 releasably threaded on the lower end of the handle 14, as understood by those skilled in the art.

Accordingly, an exceptionally simple gravity operated signal means is afforded such that when the handle 14 is inclined downwardly so that the contact 32 is elevated somewhat above the weight 26, the batteries 20 through 24 will move away from the said contact with a sliding action to break the circuit between the batteries, the metal weight 26, the stem and the light 16 and the line 28 joining the contact 29 and the contact 32.

Conversely, when the handle 14 is moved angularly upwardly, the batteries 20 through 24 as well as the weight 26 will slide downwardly so that the lowermost battery 20 will again contact the contact 32 to complete the circuit and energize the light 16.

Desirably, the light 16 is a blinker light of any suitable type so that by the simple angular movement of the handle described a blinking signal will be provided which is exceptionally effective to alert pedestrians or other individuals at locations such as street crossings, railroad crossings or other intersections or locations.

The sign structure 12 preferably includes a pair of side walls 34 and 36 which may be formed of plastic, metal or any other suitable material and may be dish convexly to form peripheral edges which register in abutting relation and may be joined by thermosetting of the plastic, heat treatment of the metal or by means of lugs or tabs or the like as understood by those skilled in the art. Preferably, each of the sides 34 and 36 is opaque for the major extent of its surface but defines indicia or lettering of translucent or transparent characteristic. Such lettering may for example be provided by stamping or cutting out the material of the sides so that an open space is afforded of the desired type, although where plastic sides are utilized the material itself may be rendered transparent or translucent in the area of the indicia. And the sides may be generally light permeable if desired. In the example shown, the word "Stop" is formed on each side of the sign structure 12, in general registration with the bulb 16 so that when the device is energized a blinking light signal will radiate through the individual letters on the opposite sides of the sign thereby conveying a clear warning and direction to cars, pedestrians or other persons, in accordance with the specific situation in which the sign is utilized.

The sign structure 12 in the example shown is of an octagonal configuration in front elevation, since this particular configuration in itself conveys a message to the observer. However, it will be understood that a variety of configurations and shapes may be provided to meet particular conditions.

In order to connect the sign structure 12 with the handle 14, the sign itself may be cut away at a relatively wide edge portion 38 to form a substantially rectangular

recess of somewhat reduced dimension relative to the width of the handle 14 and the handle 14 may be cut away to form a slot structure 40 at its upper end so as to snugly receive and engage the sign adjacent the edge 38. A suitable cement or other such adhesive material may be disposed around the boundary portions of the slit or cut 40 and the adjacent areas of the sides 34 and 36. It will be noted that the side 38 is relatively wide at its edge so as to provide a suitable stop for the hand gripping the handle 14. However, a variety of constructions may be accommodated within the scope of the invention in this respect and in respect to the mode of connecting the sign structure 12 to the handle 14.

Since the handle 14 at its upper end is cut away, as indicated, the stem 18 may extend readily upwardly there-through and into the inner area 42 formed by the sides 34 and 36; and while this extension of the stem 18 under the sign is unobstructed as described, the weight 26 itself is preferably of a sufficient width to engage upper end flanges 44 and 46 for the handle 14. Thus these end flanges 44 and 46 provide a stop limiting the extent of movement of the weight 26 and the batteries 20 through 24 when the handle 14 is moved downwardly.

It will be appreciated that the distance from the contact 32 axially to the stops 44 and 46 need be only slightly greater than the combined dimensions axially of the weight 26 and the batteries 20 through 24. Thus any slight amount of spacing afforded by the downward movement of the batteries and the weight will suffice to disengage the lowermost battery 20 from the contact 32 and to deenergize the light 16. A relatively small extent of slidable movement for the batteries and the weight is in general desirable, since this arrangement affords a high degree of responsiveness to upward and downward movement of the handle and sign for prompt energization and deenergization of the light. The spacing and extent of slidable movement may also be adjusted by rotation of the cap 33 to a greater overlap or lesser overlap with the casing 50 of the handle itself as desired.

To provide a ready means of carrying the sign 10, a belt clip 52 is secured either to the peripheral wall of the cap 34, as by a screw means or the like, or is mounted on the side of the handle 50 itself adjacent the outer end thereof. Thus the device may hang freely in depending relation from the belt when not in use but may be removed quickly for action as needed.

The lead wire or line 28 may extend outwardly from the bottom of the stem 18 through a bore 54 in the weight 26, although any suitable construction may be utilized so that there is no substantial possibility of the line 28 interfering with the slidable action of the parts within the handle, and, e.g., the line may be attached in insulated relation to the weight at the lower edge of the weight.

Although the invention has been described with respect to the use of a metal weight as indicated at 26 so that the connection or circuit for the light 16 may be positively and gravitationally closed when the handle is raised, it will be appreciated that the stem itself could extend downwardly into contact with the upper terminal 56 of the uppermost battery 24. In such a construction, it would in general be desirable to have a sliding fit between the upper end of the handle and the stem for guidance purposes, and it will further be appreciated that various alternative mountings for the stem may be afforded such as a thin disk secured to the end of the stem 18, with the case itself being dimensioned conformably to afford the desired spacing for slidable movement of the batteries as described above.

Accordingly, there has been provided a gravity operated signal and safety sign which is rugged, attractive and simple in construction and is adapted for use in a wide variety of situations. The elimination of manual switch elements for the sign afforded by the invention is highly advantageous where young people are required to direct traffic at patrolled crossings or the like for schools

and also to meet conditions where full attention must be given to railroad crossings or operations in a railroad yard, or wherever safety and signal signs are commonly used.

I claim as my invention:

1. A portable illuminating warning device having an intermittent lighting effect noticeable from a great distance,

consisting of a hollow translucent sign structure having a contrasting colored indicia therein,
a hollow handle device connected in firm assembly to said sign structure,
a blinker bulb mounting slidably supported in said handle and sign structure including an electrical contact for a battery,
a plurality of superimposed dry cell batteries slidably contained within said handle in contact with said bulb mounting contact,
an electrical conductor wire enclosed within said handle connected at its upper extremity to said blinker light bulb mounting and at its lower extremity to the bottom battery in said handle whereby relative positioning of the handle below the sign structure will close an electric circuit from said batteries to said blinker light bulb and relative positioning of the handle above the sign structure will open the circuit by moving the bottom battery away from said wire.

2. A portable illuminating warning device having an intermittent lighting effect noticeable from a great distance,

consisting of a translucent hollow sign structure having a contrasting colored indicia therein,
a hollow handle device connected in firm assembly with said sign structure and projecting therefrom,
a weighted light bulb support slidable in the upper extremity of said handle and projecting into said hollow sign structure,
said support having a threaded socket at the upper extremity thereof,
a light bulb having a threaded base connected by screwing means into said socket of said support, said light bulb being positioned within said sign structure,
a handle cap firmly affixed to the lower extremity of said handle,
a plurality of dry cell batteries slidably contained within said handle having slight freedom of movement in the longitudinal direction of said handle whereby angular rotation of the handle around the perpendicular axis of said handle will cause responsive movement of said batteries within said handle by means of gravity,
an electrical conductor wire enclosed within said handle connected to said handle cap and to said light bulb support,
whereby angular deflection of said handle to cause said batteries to move toward said handle cap will complete an electric circuit and energize said light bulb,
and opposite angular deflection of said handle will break the electric circuit to de-energize said light bulb.

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