

Jan. 1, 1952

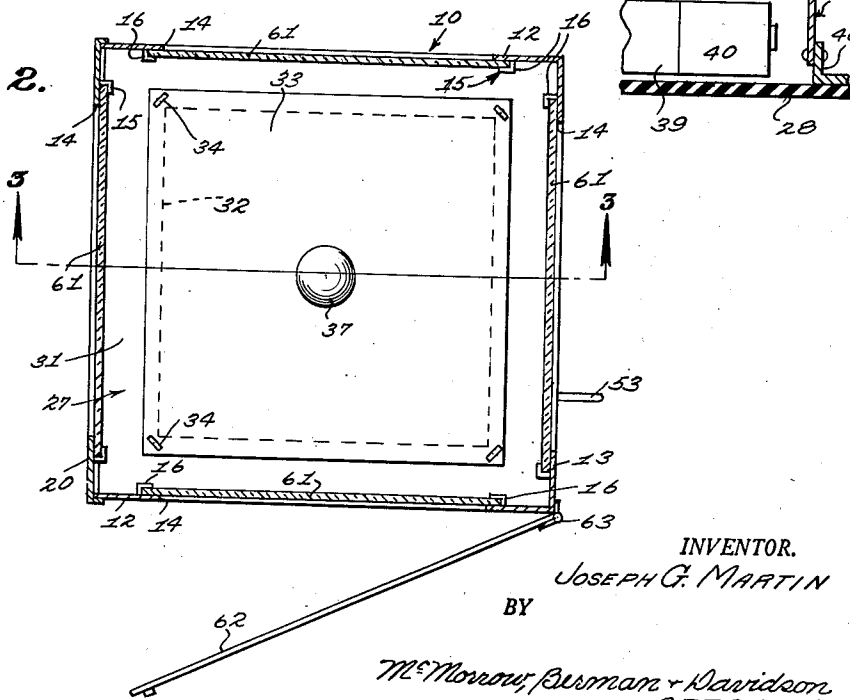
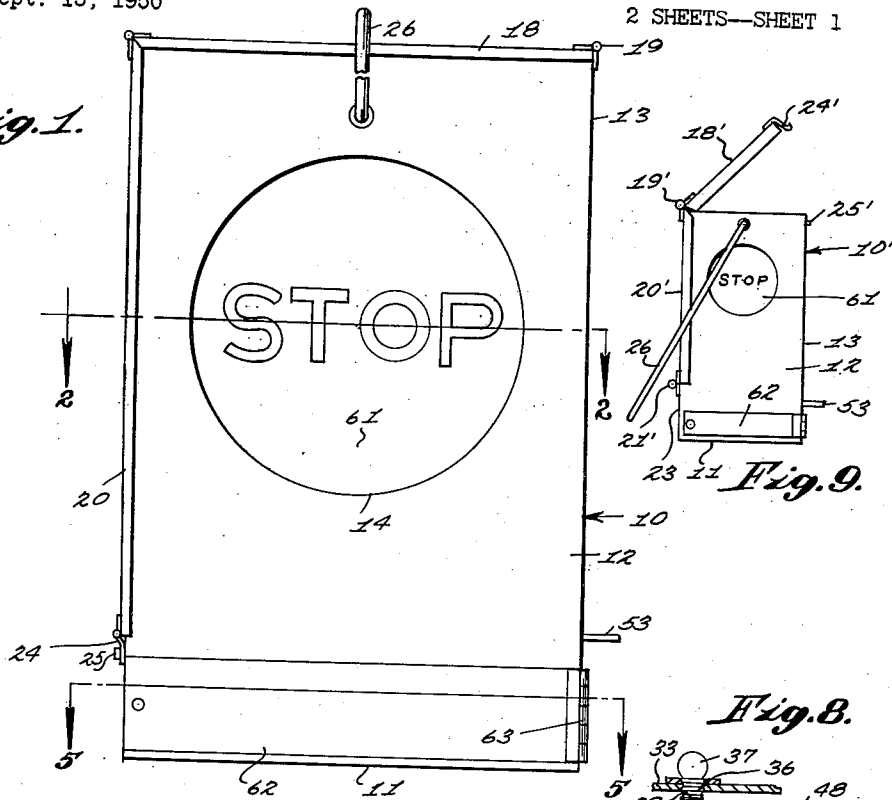
J. G. MARTIN

2,580,938

POLICEMAN'S PORTABLE TRAFFIC SIGNAL DEVICE

Filed Sept. 15, 1950

2 SHEETS--SHEET 1



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2 SHEETS—SHEET 2

Fig. 3.

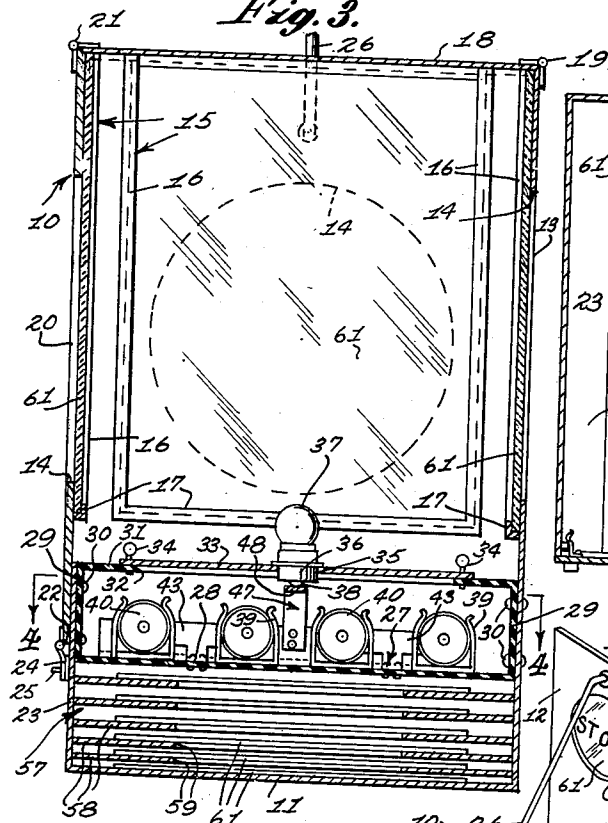


Fig. 5.

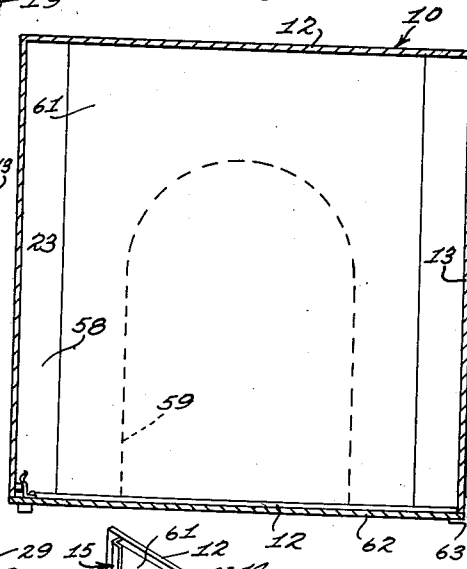


Fig. 6.

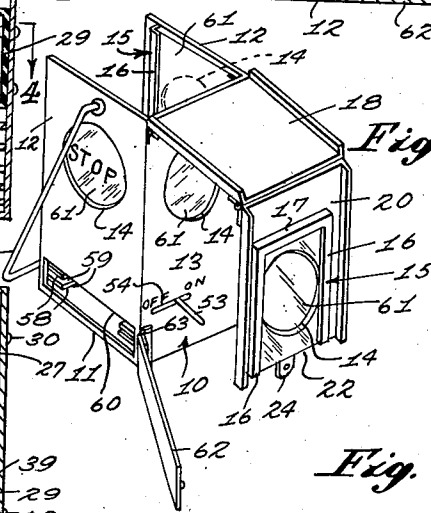


Fig. 7.

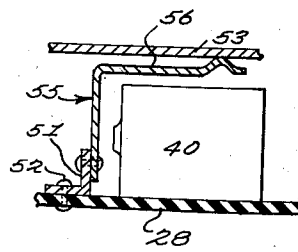
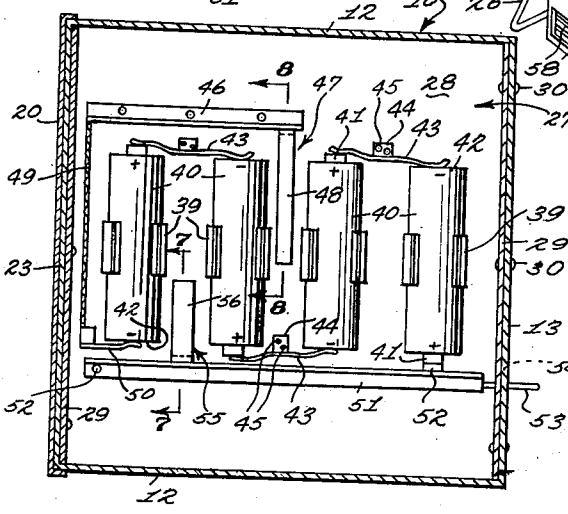


Fig. 4.



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POLICEMAN'S PORTABLE TRAFFIC SIGNAL
DEVICE

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5 Claims. (Cl. 177—329)

1

2

My invention relates to a portable traffic lamp or light.

A primary object of the invention is to provide a portable lamp for use by policemen while directing traffic after dark, instead of the ordinary flashlight which is generally used, and which is sometimes quite confusing to the motorist.

A further object of the invention is to provide a portable traffic light which may be carried in police cars, and the like, and set up for rerouting traffic around wrecks on the highway and other traffic hazards.

A further object is to provide a portable traffic lamp or light of the above mentioned character which is battery-operated, simple and rugged in construction, highly compact and inexpensive to manufacture.

A still further object of the invention is to provide a portable light of the above mentioned character which will constitute a major safety improvement in large cities where heavy traffic must be directed after dark at intersections which are not provided with the usual automatic traffic signals.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a side elevational view of a portable traffic light embodying my invention,

Figure 2 is a horizontal sectional view taken on line 2—2 of Figure 1.

Figure 3 is a central vertical longitudinal sectional view taken on line 3—3 of Figure 2,

Figure 4 is a horizontal transverse sectional view taken on line 4—4 of Figure 3,

Figure 5 is a similar view taken on line 5—5 of Figure 1,

Figure 6 is a perspective view of the lamp, drawn on a reduced scale and showing parts thereof in opened positions,

Figure 7 is a fragmentary vertical sectional view taken on line 7—7 of Figure 4, parts omitted.

Figure 8 is a similar view taken on line 8—8 of Figure 4, and

Figure 9 is a side elevational view of a lamp embodying a modification of the invention.

In the drawings, where for the purpose of illustration are shown preferred embodiments of my invention, attention is directed first to Figures 1 to 8, wherein the numeral 10 designates gen-

erally an upstanding rectangular sheet metal casing or box having its top and front side open, Figure 6. The casing 10 comprises a flat bottom 11, spaced opposed parallel vertical sides 12 and a rear vertical side 13, integral therewith. The sides 12 and 13 are provided near and above their vertical centers with large circular window openings, 14, as shown. Rectangular open top lens frames 15 are secured to the inner faces of the sides 12 and 13, adjacent to the window openings 14 and these frames include spaced parallel vertical frame sides or channels 16, which are L-shaped in cross section, as shown, and bottom horizontal frame sides 17, connecting the bottom ends of the frame sides 16, and also L-shaped in transverse cross section.

The casing 10 is equipped with a flat top closure member or lid 18, hingedly connected to the top edge of the rear side 13, as at 19, and a forward flat closure member or front cover 20 is hingedly connected at 21 to the forward edge of the lid 18 and carried bodily by the lid 18 so that the lid and cover 20 may be swung upwardly and rearwardly to their opened positions of Figure 6. When the front cover 20 is in the closed position, Figures 1 and 3, its free or bottom edge 22 terminates near and above the flat bottom 11 of the casing and the front cover 20 overlaps a short vertical front wall or panel 23 projecting upwardly from the bottom 11 and integrally connected therewith and with the sides 12 of the casing. The bottom or free edge 22 of the front cover 20 has a catch element 24 rigidly secured thereto for engagement with a companion catch element 25, fixedly secured to the front wall 23, as shown. The catch elements 24 and 25 coact to releasably hold the lid 18 and front cover 20 in their closed positions. The box or casing 10 is equipped with a long U-shaped carrying bail or handle 26, pivotally connected with the sides 12 near their tops, so that the handle or bail 26 is adapted to extend above the top of the casing 10 for a substantial distance when the lamp is being carried. When the lamp is placed upon the ground or the like, the carrying bail 26 swings downwardly over either the front or rear side of the casing 10, Figure 6.

Mounted within the casing 10, near and spaced above its bottom 11 is a horizontal support frame 27, formed of electrical insulating material, such as some suitable plastic material. The support frame 27 comprises a flat horizontal platform or panel 28, spaced vertically above the bottom 11 and extending for the full distance between the sides 12 and from the front wall 23 to the

3

rear side 13, as shown. The support frame 27 further includes front and rear upstanding vertical strips or plates 29 integral with the panel 28 and engaging the front wall 23 and rear side 13, and rigidly secured thereto by rivets 30 or the like. An upper horizontal panel or platform 31 is integrally secured to the tops of the vertical strip 29 and spaced above the panel 28, as shown, and this panel 31 likewise extends for the entire width of the casing 10 and between its forward and rear sides. The upper panel 31, like the rest of the support frame 27 is formed of electrical insulating material. The top panel 31 has a large central rectangular opening 32, covering which is a flat horizontal rectangular metal plate 33, which preferably has its top face silvered for forming a reflector, and detachably secured to the top panel 31 by screws 34 or the like. The metal plate 33 has a central screw threaded aperture 35 for receiving therein the screw threaded metal base or terminal 36 of an upstanding electric light bulb 37 having its central or inner terminal 38 projecting below the metal plate 33, the light bulb being vertically disposed, as shown.

Fixedly mounted upon the lower panel 28 at the transverse center of the casing 10 is a row of upstanding generally U-shaped spring clips or holders 39, arranged in side by side spaced relation, as shown, the row extending from the rear side to the front of the casing. Detachably mounted within the spring clips or holders 39 and extending beyond the opposite ends of the holders, as shown, are a plurality of horizontally disposed dry cell batteries 40, likewise arranged in laterally spaced side by side relation, successive batteries 40 having their positive and negative terminals 41 and 42 extending in opposite directions, so that the positive terminal 41 of each battery 40 is disposed laterally opposite or in alignment with the negative terminal 42 of the next adjacent battery 40 in the row of batteries. The batteries 40 are parallel to each other and to the forward and rear sides of the casing 10, and the opposite ends of the batteries 40 terminate in lateral alignment and a substantial distance inwardly of the sides 12. All of the batteries 40 are electrically connected in series by means of spring conducting strips 43, arranged in electrical contact with adjacent pairs of the positive and negative terminals 41 and 42 of the batteries, as shown. The conducting strips 43 extend horizontally near and above the lower panel 28, and are fixedly secured to such panel by bottom tabs 44, integral therewith and receiving rivets 45 or the like. A conducting strip or bar 46 is rigidly secured to the top of the lower panel 28 and extending parallel to and spaced inwardly of the right hand casing side 12, looking forwardly, and spaced from the right hand end of the forwardmost pair of batteries 40, Figure 4. An upstanding L-shaped spring conductor or strip 47 is secured to the rear or inner end of the conducting bar 46, and includes a top horizontal arm or extension 48 arranged at an elevation slightly above the batteries 40 and spaced below the metal plate 33, as shown. The free end of the spring arm 48 terminates substantially at the transverse center of the casing 10 and directly below the light bulb 37. The arm 48 is spring biased upwardly into electrical contact with the inner terminal 38 of the light bulb. The arrangement is such that the L-shaped strip or conductor 47 carries current from the con-

4

ducting bar 46 to the terminal 38 of the light bulb.

A wire 49 has one end electrically connected with the forward end of the bar 46 and its opposite end electrically connected with a conducting element or spring strip 50, which is in electrical contact with the negative terminal 42 of the forwardmost battery 40, the wire 49 extending horizontally above the panel 28 and substantially parallel to the forward vertical strip 29, as shown.

An elongated straight horizontally swingable conducting or switch bar 51 is arranged adjacent to the ends of the batteries 40 remote from the bar 46 and substantially parallel to and spaced inwardly of the adjacent side 12 of the casing. The switch bar 51 extends for substantially the entire distance between the rear side 13 and forward wall 23, and the forward end of the switch bar 51 is pivotally secured as at 52 to the lower panel 28 so that the switch bar may swing horizontally and slidably over the panel 28. Near its forward end, the switch bar 51 carries a laterally inwardly projecting contact button or point 52 for engagement with the positive terminal 41 of the rearmost battery 40. The switch bar 51 is free from electrical contact with the other batteries 40 of the row of batteries, and likewise free from electrical contact with the conducting strips 43 and 50. The switch bar 51 is further equipped at its rear end with a longitudinally rearwardly extending handle 53 formed of electrical insulating material, and extending slidably through a horizontal slot 54 formed in the rear side 13 and adjacent insulating strip 29, as shown. Sufficient friction between the switch bar 51 and panel 28 exists, so that the switch bar will tend to remain in any selected adjusted position. The switch bar 51 is swingable horizontally toward and away from the batteries 40, and has its inward travel limited by the engagement of the contact point 52 with the positive terminal 41 of the rearmost battery. The outward or opening travel of the switch bar 51 is limited by the length of the slot 54. The switch bar 51 carries an upstanding L-shaped spring strip or conductor 55 near its forward end and between the forwardmost pair of batteries 40, as shown. This spring strip 55 includes a horizontal arm or extension 56, integral therewith and disposed at an elevation slightly above the batteries 40 and adjacent to the bottom face of the metal plate 33. The arm or extension 56 is spring biased into continuous electrical contact with the plate 33 and slidably engages the bottom of the plate at all times during the swinging of the switch bar 51 to and from its open and closed positions. The conducting strip 55 is carried bodily by the switch bar 51.

When the switch bar 51 is in the closed position, current flows through the batteries in series, through the contact point 52 and switch bar 51 to the spring conductor 55. The current then flows from the conductor 55, through the plate 33, outer terminal 36 of the light bulb, through the filament of the light bulb and inner terminal 38 to the conducting strip 47. From the strip 47, current flows through the bar 46, wire 49 and conducting strip 50 to the negative terminal 42 of the forwardmost battery 40.

A lens storage compartment 57 is provided between the lower panel 28 and bottom 11, and rigidly mounted within this compartment 57 is a plurality of vertically spaced superposed partitions or shelves 58, provided in their forward

5

edges with large openings or recesses 59. The open sides of the recesses 59 are adjacent to the left hand casing side 12, Figure 6, and such casing side is provided adjacent to the compartment 57 with a rectangular opening 60, through which glass or plastics lenses 61 may be withdrawn. A horizontally swingable cover or door 62 is hingedly connected as at 63 with the rear side 13, and this door serves as a closure member for the opening 60, as shown. The lenses 61 are rectangular, and of the proper width to enter the frames 15. As shown in Figure 6, one of the lenses 61 is mounted within each frame or holder 15, for covering the openings 14 in the sides of the casing 10. In this connection, it should be understood that the hinged cover 20 has an opening 14 and rectangular frame or holder 15 secured to its inner face, in the same manner as the sides 12 and rear side 13 are provided with the openings 14 and frames 15. Also, the under face or bottom of the hinged top or lid 18 is preferably silvered to form a reflecting surface arranged in opposition to the top reflecting surface of the plate 33. All of the openings 14 are thus arranged between vertically spaced reflecting surfaces, Figure 3. The shelves 58 of the compartment 57 accommodate spare lenses 61 or lenses of different colors and having different designations marked thereon. If desired, certain of the lenses 61 may be opaque, so that certain of the openings 14 may be blocked off completely, if desired.

I contemplate forming the lenses 61 in various colors, such as red, green and amber and providing them with certain words or designations to aid in the directing of traffic, such as stop, go, no left turn, detour, and the like. Obviously, any desired number of the lenses 61 may be provided, and any desired designations or markings may be provided upon the lenses so as to be arranged adjacent to the openings 14 when the lenses are in place within the frames 15. For example, one of the lenses 61 arranged adjacent to one side 12 may be colored red and provided with the word "Stop," Figure 6, while the lens 61 adjacent to the other side 12 may be colored green and provided with the word "Go." The lens 61 adjacent to either the rear side 13 or front cover 20 may be colored amber like the amber or caution signal of a conventional traffic light. With this arrangement, an officer directing traffic with my lantern can merely hold the same suspended from the handle 26 and turn it to present the different colored lenses to an oncoming stream of traffic.

In Figure 9, I have shown a slightly modified form of lamp casing 10', comprising the flat bottom 11, sides 12, and rear side 13, integral therewith; this construction being identical to the construction of the casing 10 in the first form of the invention.

The casing 10' is provided with a flat top or lid 18', hingedly connected at 19' with the top edge of a front cover 20'. The lower edge of the front cover 20' is hingedly connected at 21' to the front wall or panel 23. The rear free edge of the lid 18' carries a catch element 24' for engagement with a companion catch element 25', fixedly secured to the top of the rear side 13. All other parts of the lamp are identical with those corresponding parts shown and described in connection with the first form of the invention.

With the arrangement shown in Figure 9, when it is necessary to change any of the lenses 61, it is necessary to open only the lid 18'. It

6

only becomes necessary to open the cover 20' when changing batteries.

It is to be understood that the forms of the invention herewith shown and described are to be taken as preferred examples of the same, and that various changes in shape, size and arrangement of parts may be resorted to, without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A portable traffic lantern comprising an upstanding casing including side walls having window openings, lenses mounted upon the side walls and covering the openings thereof, an upper substantially horizontal panel mounted within the casing below the lenses, a light bulb mounted upon said upper panel, a lower substantially horizontal panel mounted within the casing below the upper panel, a plurality of dry cell batteries detachably secured to the lower panel and electrically connected in series, circuit means connecting the batteries and light bulb and including a switch which is manually operable for lighting and extinguishing the bulb.

2. A portable traffic lantern comprising a casing including a side wall having an opening, a lens mounted upon the side wall adjacent to the opening, an upper substantially horizontal panel mounted within the casing below the lens, a light bulb mounted upon the upper panel, a lower substantially horizontal panel mounted within the casing below the upper panel, batteries mounted upon the lower panel and electrically connected in series, a horizontally swingable switch bar pivotally secured to the lower panel and adapted to contact a terminal of said batteries for closing a circuit through the light bulb, and circuit means connected with the light bulb batteries and switch bar and energized when the switch bar contacts said terminal of the batteries.

3. A portable traffic lantern comprising an upstanding casing including a side wall having an opening, a lens mounted upon the side wall adjacent to the opening, a substantially horizontal metal plate mounted within the casing below the lens, a light bulb mounted upon the metal plate, a substantially horizontal insulating plate mounted within the casing and spaced below the metal plate, a plurality of batteries detachably secured to the insulating plate and electrically connected in series, a horizontally swingable switch bar pivotally connected with the insulating plate and swingable into and out of contact with a terminal of said batteries, a spring contact element secured to the switch bar for movement therewith and slidably engaging said metal plate in all positions of the switch bar, and circuit means connecting the light bulb and batteries.

4. In a portable traffic lantern, a casing, a substantially flat metal plate fixedly mounted within the casing, a light bulb secured to the metal plate and having an outer terminal electrically connected with the metal plate and an inner terminal spaced from one side of the metal plate, a substantially flat insulating plate fixedly mounted within the casing and spaced from the metal plate, a plurality of batteries mounted upon the insulating plate and arranged between the insulating and metal plates and electrically connected in series, a spring conductor connected with the insulating plate and contacting said inner terminal of the light bulb, circuit means connecting the spring conductor and one terminal of said bat-

7

teries, a switch bar pivotally connected with the insulating plate and adapted to contact one terminal of another of said batteries, and a spring conductor secured to the switch bar and bodily carried thereby and slidably contacting the metal plate in all positions of the switch bar.

5. In a portable traffic lantern, a casing including a pair of spaced opposed side walls, a rear side connecting said side walls, a bottom secured to the side walls and said rear side and forming therewith a unitary structure, the front side and top of the casing being open, a hinged cover for the open top of the casing, a cover for the open front side of the casing and hingedly secured to the free edge of the first named hinged cover and bodily carried thereby, latch means for releasably holding said hinged covers in closed positions, at least one of said side walls of the casing having an opening, a lens detachably mounted upon the last mentioned side wall adjacent to the opening thereof, a fixed panel mounted with-

8

in the casing, a light bulb mounted upon the fixed panel, battery means mounted within the casing below said fixed panel and electrically connected with the light bulb and including a switch for opening and closing a circuit through the light bulb, and shelf means within the casing below said battery means for holding spare lenses.

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