Feb. 24, 1942. L. A. GERSTENBERGER 2,274,138

ELECTRIC ILLUMINATING DEVICE

Filed May 3, 1940

Fig. 1

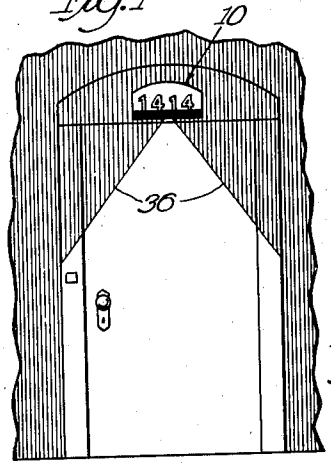


Fig. 4

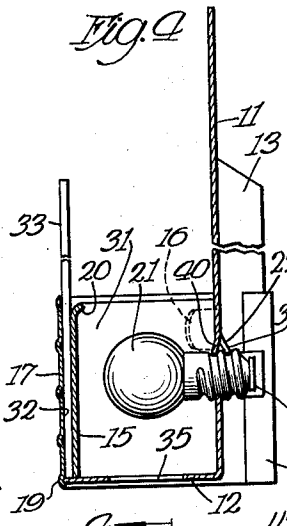


Fig. 5

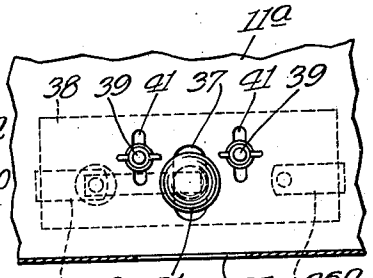


Fig. 6.

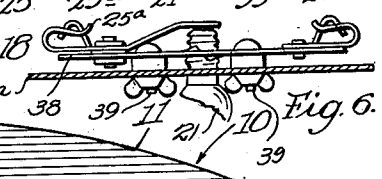


Fig. 2

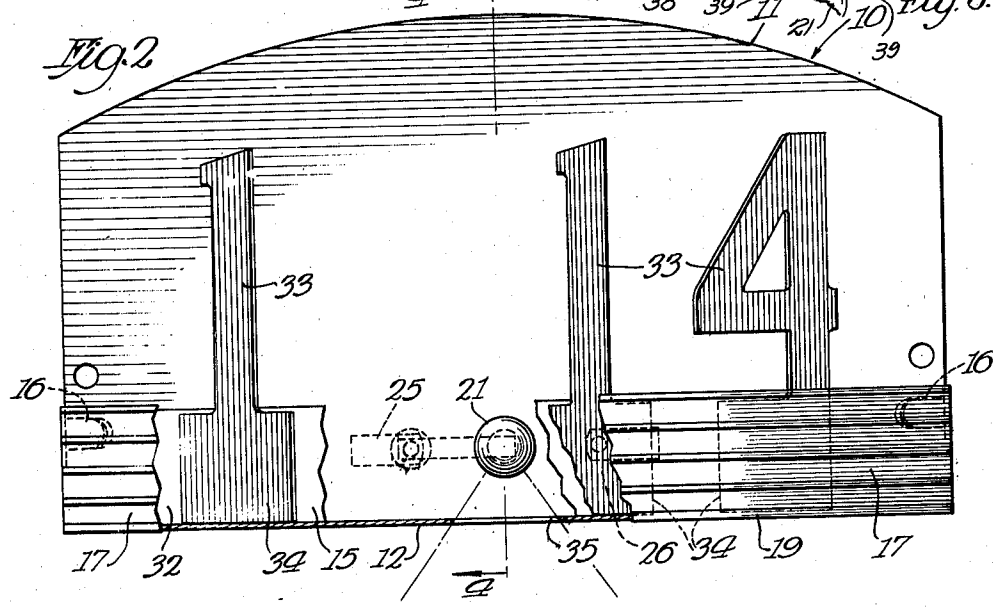
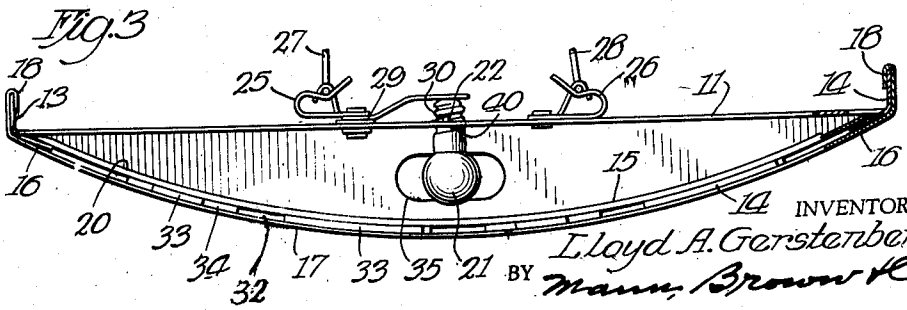


Fig. 3



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ELECTRIC ILLUMINATING DEVICE

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Application May 3, 1940, Serial No. 333,168

9 Claims. (Cl. 40—130)

This invention relates to electrically illuminated signs or symbols and more particularly to mechanism for illuminating house addresses and the like.

One of the objects of the invention is the provision of new and improved mechanism for illuminating the house addresses of residences and simultaneously illuminating the portion of the door having the knob and keyhole as well as illuminating the door bell button on the door jamb.

Another object of the invention is the provision of a new and improved illuminating device that is adapted to illumine the front of a door over which the device is mounted in such a means as to add to the pleasing appearance of the door, especially at night-time.

Another object of the invention is the provision of a new and improved illuminating device provided with means for easily and readily changing the illuminated symbols and for holding the same in use in such position that they are conspicuous and easily read.

A further object of the invention is the provision of an illuminating device that is inexpensive to manufacture, easily assembled, efficient in operation and that may be operated on a minimum of current.

Other and further objects and advantages of the invention will appear from the following description taken in connection with the accompanying drawing in which,

Fig. 1 is a front elevation of a building and a door therein showing the invention in position thereon;

Fig. 2 is a front elevation of the device on an enlarged scale, with parts broken away;

Fig. 3 is a top plan view thereof;

Fig. 4 is a section on line 4—4 of Fig. 2; and

Fig. 5 is a detailed view showing a modified form of construction;

Fig. 6 is a horizontal section of the back plate showing in plan the construction shown in Fig. 5.

Anyone who has ever attempted to locate a house address in a city knows how difficult it is to locate such an address, much less read it, after dark.

Numerous devices have been designed for illuminating the address. Some are too large and cumbersome to be practical, others too complicated to be useful, while others are too expensive to operate to ever come into extensive use. The present invention seeks to remedy these difficulties by the provision of a new and improved device that is inexpensive to construct and operate, but exceedingly efficient in its operation, not only displaying the illuminated house number, but also illuminating the door handle, bell button and keyhole and at the same time presenting a very artistic appearance to the observer.

Referring now to the drawing, the reference character 10 designates the electrical display device, which comprises a rear or supporting plate 11, Figs. 2, 3 and 4, and a bottom or mask plate 12 extending forwardly from the lower edge of the supporting plate as shown in Fig. 4. The bottom or mask plate 12 is rigid with the back plate. The back plate and bottom plate may be made of any suitable material and when made of sheet metal, as shown on the drawing, they are preferably, though not necessarily, made integral. The back plate 11 is provided at each side with rearwardly extending flanges 13 and 14, as shown more clearly in Fig. 3 of the drawing. These flanges function as spacing members to hold the back plate 11 from the wall or other support to which the device may be attached to form with said plate a recess for receiving the clamping means of the terminals for the electric light as will presently appear. The bottom plate 12 is preferably provided with a curved front edge, as shown in Fig. 3, and resting on this edge and extending upwardly therefrom, and conforming to the curvature thereof, is a symbol-holding plate 15, which extends from one side edge of the back plate to the other. This plate is held in position by tabs or fingers 16, which are struck out from the back wall 11 at each side edge thereof. The upper edge of this plate is bent inwardly to form a guide flange 20 for guiding the symbols into a holding slot as will presently appear. The side edges of the plate 15 are engaged between the tabs 16 and the back plate 11 for holding the plate 15 in position. These tabs constitute spacing members for the front plate as will presently appear.

A finishing or front plate 17 extends around the forward edge of the bottom plate 12 and extends upwardly therefrom parallel to the symbol-holding plate 11, and is spaced therefrom by the tabs 16 to form the symbol-holding slot 32. The ends or side edges of the plate 17 are bent rearwardly and return bent around the flanges 13 and 14 as shown at 18, Fig. 3, for securing the plate in position.

The lower edge of the plate 17 may be, and preferably is, provided with a bead shown at 19, the recess of which receives the forward edge of the plate 12 for positioning the plate 17 as clearly shown in Fig. 4 of the drawing. The

upper edge of the plate 17 is located slightly above the plate 15, so as to conceal the same. The space between the plate 15 and the back plate 11 constitutes a recess 31 within which is mounted an electric lamp or light bulb 21. The rear wall 11 is provided with an opening, which has a slit 22 radially thereof and the adjacent portions of the plate are bent inwardly and outwardly as at 30 and 40 respectively, as shown in Fig. 4, to engage the threads of the light bulb for holding the same in position. In other words, the opening 22 and the bent portions 30 and 40 constitute what may be termed a threaded socket for the light bulb. The material of the back wall being thin the bent thread engaging portions 30 and 40 form a shallow socket so that the bulb may be screwed in or partially unscrewed from the position shown in Fig. 4 so as to bring the field of illumination below the device closer or farther away from the door as may be desired or as occasion may demand. The back of the plate 11 is provided with terminal clamps 25 and 26 to which the electrical conductors 27 and 28, for conducting the current to the back are held. The clamp 25 is insulated from the plate 11 by a block of insulated material 29, as is usual in such constructions. The bulb 21 is positioned within the recess 31 formed by the walls 15, 12 and 11 and below the top edges of the walls 17 and 15, so that it will not be visible from in front of the device.

The slot 32 is adapted to receive the lower end of symbols 33, which have substantially the same thickness as the spacer member 16, and these symbols are provided with bases 34, Fig. 2, which may be rectangular and are adapted to be inserted in the slot and seated on the bottom wall 12, which holds them from turning laterally and for holding the symbol portion above the tops of the walls 15 and 17. Since slot 32 is curved, the wide bases 34 of the symbols must be bent to conform to this curvature when the same are inserted in the slot and the tendency of these bases to straighten out, due to their resiliency, will cause friction between these bases and the side walls of the slot for holding the symbols firmly in position. The back plate 11 is so constructed that it functions as a mirror for reflecting rays striking the same from the bulb 21, forwardly across the symbols 33, whereby they are made conspicuous by the light rays passing through the same if they be of colored transparent material or will be silhouetted against the back or supporting plate if the material of the symbols be opaque, but in any event the symbols will be clearly visible in outline from the front of the device.

It is desirable to provide means for illuminating that portion of the door and door jamb on which the door bell and door knob are mounted, so that they will be clearly visible during the night-time. In the present invention this is accomplished by providing an aperture 35 in the lower wall 12, directly beneath the bulb 21 and mounting the device above the door. If the device be mounted at the side of the door, the slot would necessarily be at the side of the device adjacent the door. This aperture may be of any form or size, limited only by the area of the space between the front and back plates. As shown, it is oblong, extending longitudinally of the plate and may be in the form of an ellipse, as shown in Fig. 3. This slot is so constructed that the light will illumine only a portion of the door, as indicated by the lines 36 in Fig. 1. This arrangement has an unusually pleasing appearance at night because the house numbers or symbols 33 will stand out in bold relief and extending downwardly from these symbols will be a cone shaped illuminated zone, which materially adds to the appearance of the entire arrangement.

Some doors are wider than others, or have their knobs, or keyholes, or bell buttons farther from the top of the doors than others so that the zone of illumination should be adjustable in order to be adjusted to all conditions and dimensions of areas to be illuminated.

In Fig. 5 is shown a modified form of construction in which provision is made for raising and lowering the lamp bulb 21, whereby the zone of illumination beneath the device will be enlarged or restricted.

As shown, the bulb 21, extends through a vertically arranged slot 37 in the back plate 11*a* and is attached to a movable plate 38 to which the bulb 21 is attached in a manner similar to that shown in Fig. 4. The plate 38 is held to the back pltae 11*a* as by means of bolts 39 secured to the plate 38 and engaging slots 41 in the back plate 11*a*. When it is desired to restrict the size of the illuminated zone, the nuts on the bolt 39 are released and the plate 38 elevated to the position where the illuminated zone on the door will be the desired amount. The plate 38 has the terminals 25*a* and 26*a* mounted thereon similar to the plate 11 in Fig. 3. Instead of raising and lowering the light bulb, it is evident that means may be employed for changing the length of the opening 35.

While the device is shown as having symbols thereon, it is evident that the device may be used without the symbols for illuminating the bell buttons, keyholes, door knobs or even house numbers positioned on the door or door jamb, if desired.

It is thought from the foregoing, taken in connection with the accompanying drawing, that the construction and operation of my device will be apparent to those skilled in the art and that changes in size, shape, proportion and detail may be made without departing from the spirit and scope of the appended claims.

I claim as my invention:

1. In an electric display device a source of light, a back wall rearwardly of said source of light and extending above the same, a front plate extending from said wall around said source of light for forming a casing for concealing the light from the sides and from in front thereof, said wall extending materially above said plate, said casing having its upper portion open and unobstructed through which light rays from said source of light may be projected without obstruction for illuminating said wall above said housing, means for supporting said source of light from said back wall in a plane between the upper and lower edge portions of said front plate, symbols having downward extensions, and means for holding said extensions in contact with said front plate with said symbols extending above said front plate and in front of said source of light and above the horizontal plane thereof, whereby said source of light will illumine the rear faces of said symbols, and said symbols will be silhouetted agains the illuminated back wall when viewed from in front of said housing, said housing having a single opening in its lower portion through which diverging rays of light from said source may be projected for illuminating the space beneath said housing.

2. In a device of the class described, a supporting plate, a bottom plate extending forwardly from said supporting plate, a front plate extending upwardly from said bottom plate and spaced forwardly therefrom, a finishing plate secured to said supporting plate and spaced forwardly therefrom, to form a symbol retaining slot, symbols having their bases engaging in said slot and having their upper portion extending above said finishing and front plates, means concealed by said front plate for illuminating a divergent space below said device, and means for varying the angle of said divergent space.

3. In a device of the class described, a supporting plate, a mask plate extending forwardly from the lower edge thereof, a symbol retaining plate extending upwardly from said mask plate and spaced from said supporting plate to form a recess, a finish plate engaging the front edge of said mask plate and extending upwardly parallel with said symbol retaining plate, spacer members between said symbol retaining and said finishing plates to space the same apart to form a slot, symbols inserted in said slot and extending above said finishing plate and symbol retaining walls, and a lamp carried by said supporting wall and located in said recess, said mask plate being provided with an oblong opening beneath said lamp through which divergent rays of light are projected from said lamp.

4. In a device of the class described, an upwardly extending back supporting plate, a front plate extending in front of said back supporting plate and spaced therefrom and having its end portions curved toward said back plate and rigidly secured adjacent to said back plate to form a housing, a source of light between said plates and supported by one of them, said housing surrounding said source of light and obscuring the same from view from the sides and front of said source of light, said housing having its upper portion open and unobstructed through which light may pass upwardly from said source for illuminating said back plate and the space above the same, a plurality of symbols and means for holding said symbols in contact with said front plate with their upper portions extending above said front plate but materially below the upper portion of said back plate, whereby said symbols will be illuminated on their back faces and be silhouetted against said back plate when viewed from in front of said housing, said housing being provided with a single opening in its lower portion through which rays of light from said source may be projected without any obstruction by opaque objects.

5. In an electric display device, a casing having its upper portion open and unobstructed, a light bulb within said casing invisible from the front of said device, symbols supported on said casing and extending above the forward edge of said casing and illuminated by said light bulb, an opening in the bottom of said casing through which divergent beams of light from said bulb is directed and means on the back wall of said casing for raising and lowering said bulb for varying the divergence of the light rays projected through said opening.

6. In a device of the class described, a back plate, a buttom plate, said bottom plate having a curved forward edge, a symbol positioning plate supported on said bottom plate and curved to conform to the curvature of said bottom plate, means for securing said symbol supporting plate in position on the bottom plate and a front plate secured to said back plate and spaced from said symbol supporting plate by said means to form a curved slot, and symbols having bases frictionally held in said slots.

7. In a device of the class described, a supporting plate, a bottom plate extending forwardly from said supporting plate, a front plate extending upwardly from said bottom plate and spaced forwardly from said supporting plate, symbols secured to said front plate and extending upwardly therefrom, a lamp bulb mounted in the space between said front and supporting plates for illuminating said symbols, and having a threaded portion adjustably engaging thread engaging members in an opening in the supporting plate, said bottom plate having an elongated opening therein through which rays of light are projected to provide an illuminated zone diverging downwardly.

8. In a device of the class described, a supporting plate having rearwardly extending flanges, a bottom plate extending forwardly from said supporting plate and having a curved forward edge, a front plate spaced forwardly from said back plate and conforming to the curved edge of said back plate, ears on said back plate engaging said front plate for retaining the same in position on said device, a finishing plate outwardly of said front plate conforming to the curvature of said front plate and having its ends bent about said flanges, said ears constituting spacers for holding said front and finishing plates spaced to form a slot, symbols having bases insertable within said slot, a lamp bulb supported in the space formed by said plates, said bottom plate having an elongated opening therein through which rays of light are projected to provide an illuminated zone diverging downwardly.

9. In a device of the class described, a rear wall, a front wall, a bottom wall connecting the lower edges of said rear and front walls, said bottom wall having an opening formed therein between its ends, a plurality of symbols secured to said front wall and extending above the same, said symbols terminating below the horizontal plane of the uppermost portion of said back wall, a source of light supported above said opening for directing divergent rays of light therethrough, means for adjusting said source of light to or from said back wall and means for vertically adjusting said source of light whereby the illuminated space below said opening may be reduced or enlarged and may be moved toward or away from the plane of said back wall as desired.

LLOYD A. GERSTENBERGER.