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[54] **ILLUMINATED BUS**
 6 Claims, 5 Drawing Figs.

[52] U.S. Cl..... **240/52.1,**
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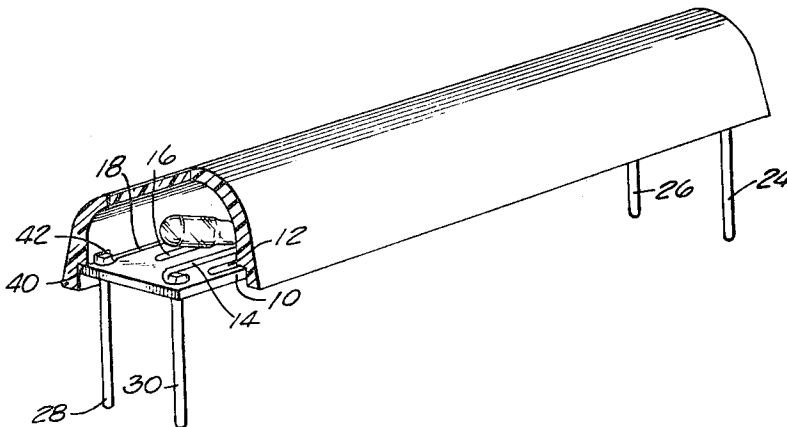
[51] Int. Cl..... **G09f 9/14,**
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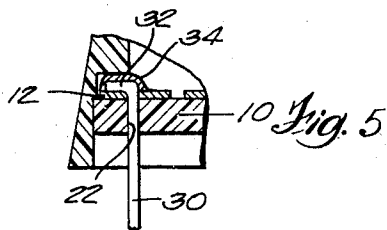
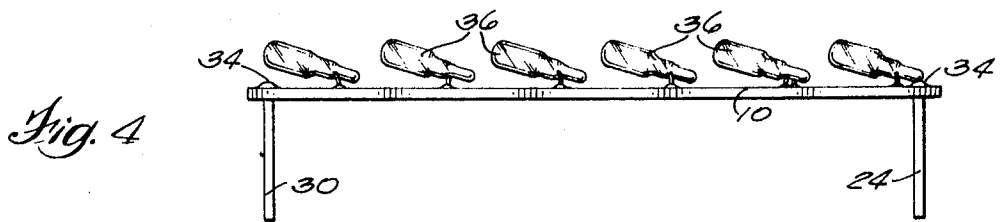
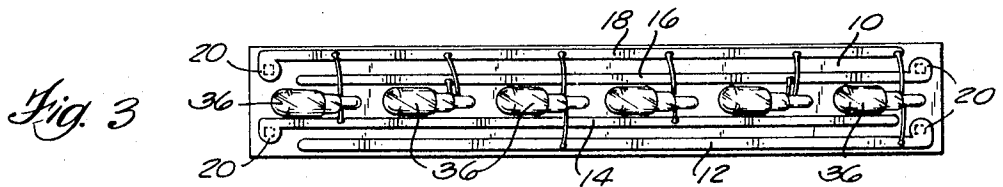
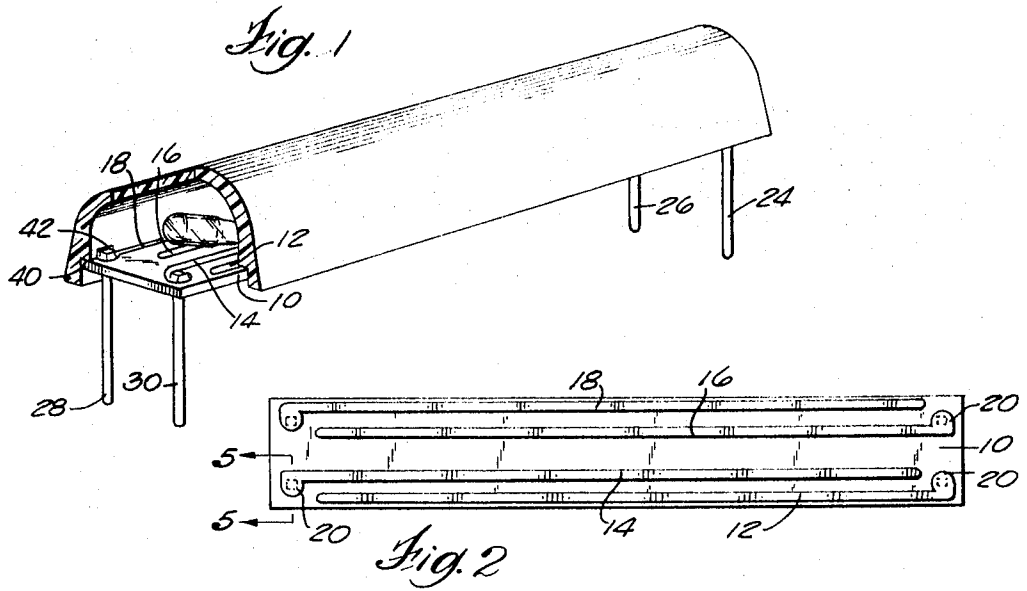
[50] Field of Search..... 240/52, 78
 LD, 52.1; 339/18, 18 P, 147; 340/381; 315/184,
 212, 314, 73 LD

[56] **References Cited**
UNITED STATES PATENTS

1,222,092	4/1917	Fricke	315/314
2,745,094	5/1956	Harrington et al.....	340/381
2,567,189	9/1951	Davis.....	35/40

ABSTRACT: An insulating base has a plurality of conductors on one side. A plurality of mounting prongs extend through the base and project from the other side. These prongs have bent-over ends connected to the conductors. A number of small lamps are connected to the conductors. A translucent cover is seated on the base and houses the lamps. This cover has portions overlying and engaging the bent-over ends of the prongs so that pressure needed to install the unit on a panel of a dispatching board is transmitted directly to the mounting prongs. The bent-over ends also prevent the prongs from becoming detached when the unit is removed from the panel.





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ILLUMINATED BUS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to an illuminating bus which is readily mounted on and detached from the perforated panel of a dispatch board or the like. This bus has a plurality of small lamps which can be separately controlled to provide intensity changes and flashing conditions.

2. Description of the Prior Art

Perforated metal panels with nonperforated insulating rear layers are commonly used as dispatcher boards or the like. It is also well known to employ nylon bushings in the perforations. Single lamps with two extending mounting prongs are mounted on such panels by inserting the prongs into the nylon bushings and forcing them through the insulating rear layer. The prongs are also conductors and are connected to circuitry or complicated wiring on the rear of the panel. There is no provision in such prior practice for multiple lamps in a single unit or the provision of abutments by which pressure on the translucent cover is applied directly from the cover to the inner ends of the mounting prongs.

U.S. Pat. No. 2,567,189 relating to a television reporting system shows a plurality of lamps mounted within a translucent plastic cup with a flasher arrangement. There are no mounting prongs with inner ends engaged by the plastic cup. The support of the flasher unit on the map is accomplished by magnetic means.

U.S. Pat. No. 2,745,094 also shows a plurality of small electric lamps mounted within a hollow casing. These lamps are not separately controlled and are not designed to accomplish intensity changes and flashing conditions. The unit is not mounted on the instrument panel by prongs. Instead the unit is attached by screws, bolts, or rivets.

BRIEF DESCRIPTION OF THE DRAWING

In the drawing:

FIG. 1 is a perspective view of an illuminated bus embodying the invention with parts broken away to show the interior;

FIG. 2 is a top plan view of the insulating base with the translucent cover and lamps removed to show the conductor arrangement;

FIG. 3 is a top plan view of the insulating base with only the translucent cover removed;

FIG. 4 is a view in side elevation of the insulating base of FIG. 3; and

FIG. 5 is an enlarged fragmentary view taken on line 5—5 of FIG. 2.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawing by reference numerals, the illuminated bus embodying this invention has an elongated insulating base 10. On the upper surface of this base there is mounted by any well-known means four conductive strips 12, 14, 16, and 18. These are positioned in spaced parallel arrangement as shown in FIG. 2. Each of these strips have at one end an enlarged portion forming a terminal 20 located near each corner of the base. There are holes 22 (see FIG. 5) extending through the terminals 20 and the base 10. These holes are arranged at spacings which conform to the spacings of the perforations in a metal panel used as a dispatcher board.

Metal rod prongs 24, 26, 28 and 30 extend through the holes 22 and project laterally from the lower surface of the base 10. The upper ends of these prongs are bent to form heads 32 (see FIG. 5), which seat on the terminals 20 and are secured thereto by solder 34 or other conductive adhesive.

A plurality of small lamps 36 are mounted on the conductive strips. Each lamp has one of its two wire leads soldered to one conductive strip and the other wire lead soldered to another conductive strip. The wire leads perform the dual function of supporting and electrically connecting the lamps. As illustrated in FIGS. 2 and 3 the conductive strip 18 to which is connected prong 28 is common to all lamps. Prong 28

therefore is connected to one side of the source of electric power. Proceeding from left to right in the sequence as viewed to FIG. 3, it will be seen that: the second and fifth lamps are connected to strip 16 and prong 26; the first and fourth lamps are connected to strip 14 and prong 30; and the third and sixth lamps are connected to strip 12 and prong 24. Thus all six lamps may be energized by connecting the three prongs 26, 30, and 24 to the other side of the source. Four lamps may be energized and two not energized by disconnecting one of such prongs from such source. Two lamps may be energized and four not energized by disconnecting two of such prongs from such source. This will still cause the translucent cover of the bus to be illuminated throughout but the intensity can thus be varied. If one of such prongs is connected to the other side of the source by a flasher two lamps will flash. This arrangement of circuitry permits many combinations to be fed from switches or computers.

A plastic translucent cover 38 of semioval shape in cross section has its open bottom fitted over the base 10 and cemented thereto. It houses all the lamps and transmits light from almost its entire surface when any one or more of the lamps is energized. Longitudinally extending ridges 40 are formed on the inner faces of the sides of such cover to provide seats or abutments which are engaged by the base for proper positioning.

An important feature of this invention is that the ridges overlie the heads 32 of the prongs (see FIG. 5) and the globs of connecting solder 34 so that any force placed on the cover will be transmitted to the heads of such prongs. In order to have this engagement and still have the ridges engage the periphery of the sides of the base, the ridges 40 are provided with four recesses or notches 42 which are in alignment with a respective head 32. The depth of these notches is proportioned to the height of the glob of solder from the top face of the base.

To mount the illuminated bus on a metal panel of a dispatch board (not shown) the prongs 24, 26, 28, and 30 are inserted in apertures in such board and pressure is applied to the cover 38 to drive the prongs through the imperforate insulating layer (asbestos) customarily mounted on the back of such panel. Because such pressure is distributed direct to the heads 32 and the globs of solder, there will be no tendency to destroy the electrical connection between the prongs and the terminals 20. Also when removing a previously mounted bus for replacement the pulling force on the base and/or cover will be applied to the bent-over heads and thus minimize the force tending to destroy the electrical connection between prongs and terminals.

Where conditions require it, it is contemplated that the covers 38 may be supplied in various colors. The fact that the bus is mounted on the outside face of the panel of a dispatching board permits the entire glow emanating from the cover to be fully viewed from angles with respect to the plane of such panel.

I claim:

1. An illuminated bus comprising: an elongated insulating base having a plurality of separate spaced conductors extending longitudinally on a side thereof; a plurality of mounting prongs extending through said base and having deformations on the inner ends thereof seated on and secured to said conductors; several small lamps on said side of said base and connected to selected conductors; and a translucent cover seated on said base and housing said lamps, said cover having portions overlying said deformations for directly transmitting force to the inner ends of said prongs along the axis thereof.
2. An illuminated bus as set forth in claim 1 in which: said conductors have terminals through which said prongs extend; and said deformations are bent-over ends on the inner ends of said prongs.
3. An illuminated bus as set forth in claim 2 in which:

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said portions on said cover are the bottoms of notches in internal ridges, said notches being aligned with said bent-over ends.

4. An illuminated bus as set forth in claim 3 in which: said lamps have two lead wires, one of which is connected to a single conductor and the other of which is connected to one of the other conductors.

5. An illuminated bus as set forth in claim 4 in which:

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said spaced conductors are substantially parallel and extend longitudinally of said base.

6. An illuminated bus as set forth in claim 5 in which: each conductor has a terminal only on one end thereof, the terminal on one conductor being adjacent the end of an adjacent conductor which has no terminal.

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