June 9, 1964 E. F. GUTH, JR 3,136,083

ELECTRIC ILLUMINATED SIGN

Filed Nov. 20, 1961 4 Sheets-Sheet 1

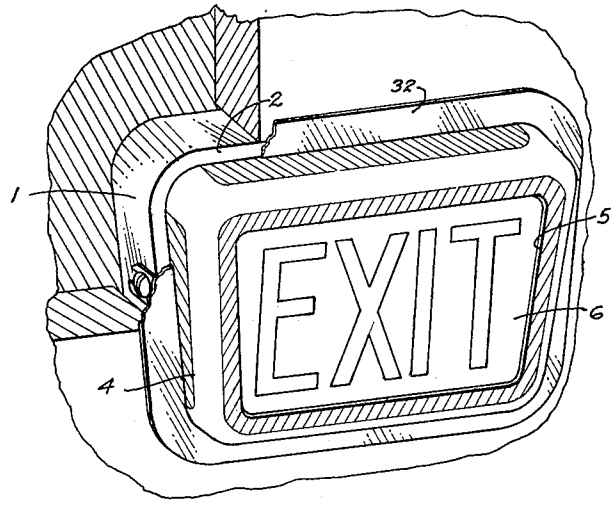
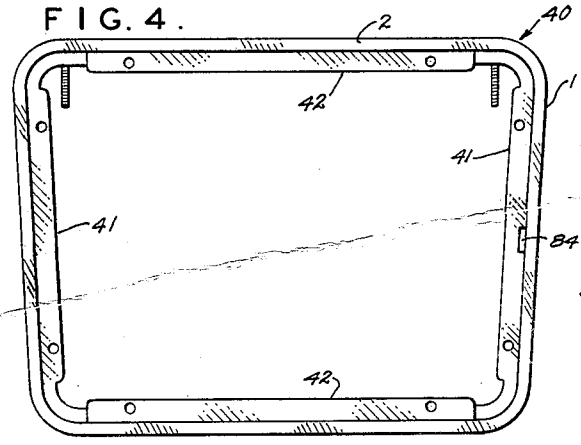


FIG. 1.

FIG. 4.



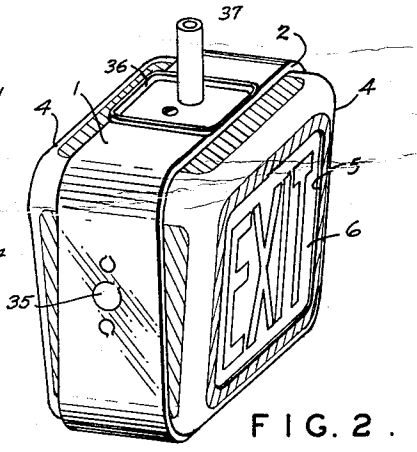


FIG. 2.

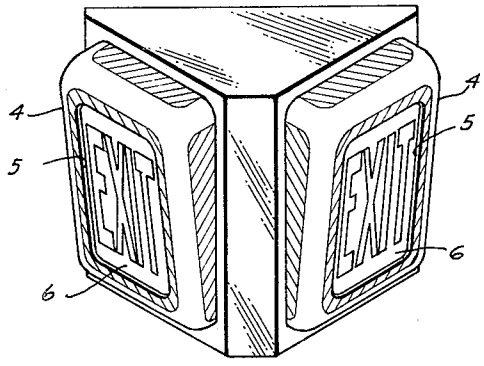


FIG. 3.

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ELECTRIC ILLUMINATED SIGN

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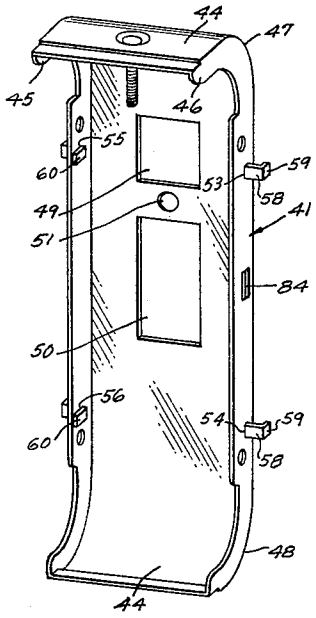


FIG. 5.

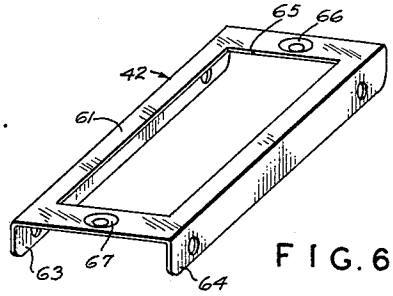


FIG. 6.

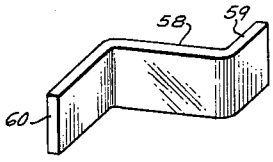


FIG. 7.

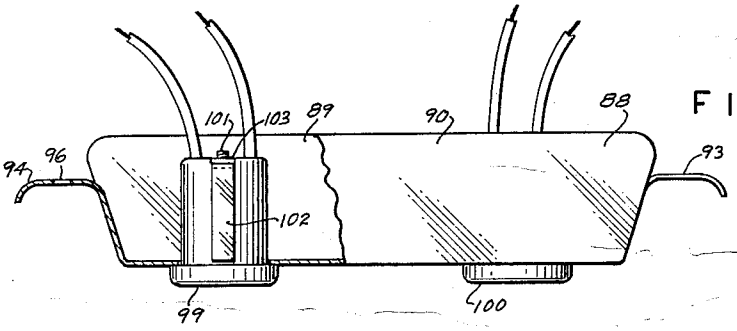


FIG. 11.

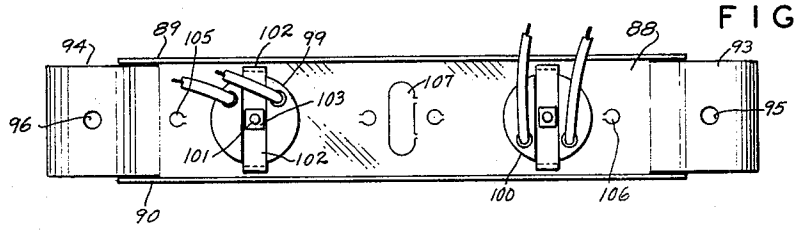


FIG. 12.

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ELECTRIC ILLUMINATED SIGN

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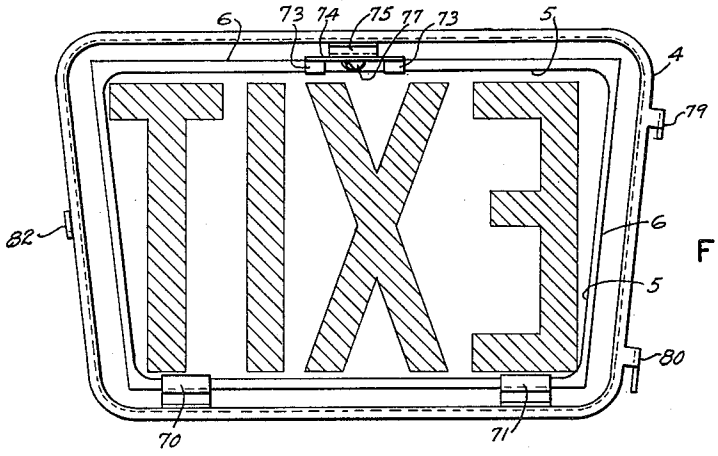


FIG. 8.

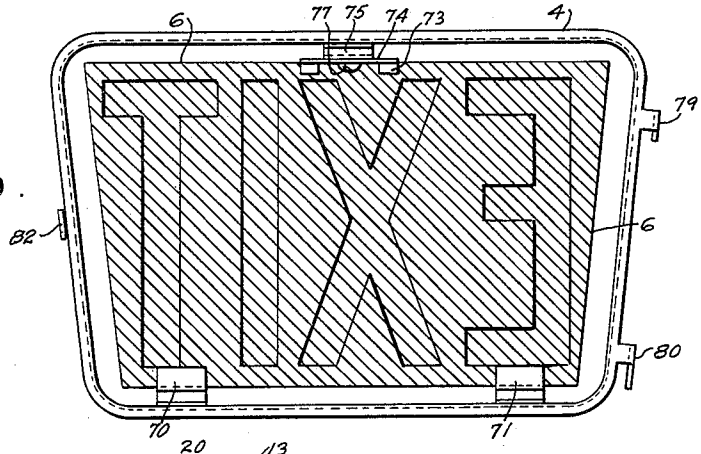


FIG. 9.

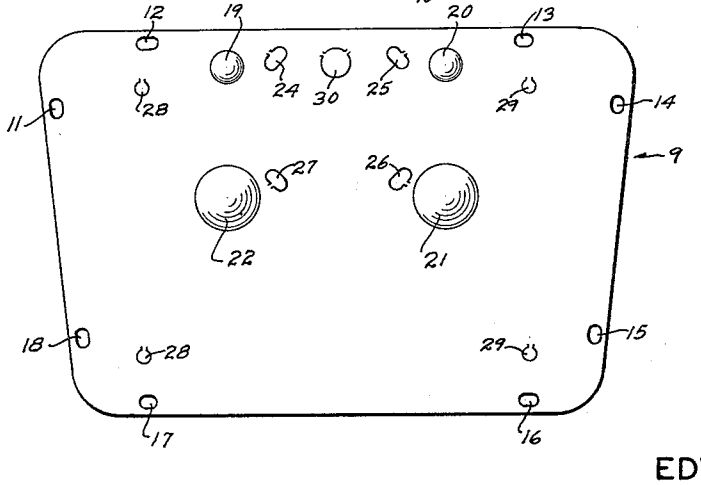


FIG. 10.

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ELECTRIC ILLUMINATED SIGN

Filed Nov. 20, 1961 4 Sheets-Sheet 4

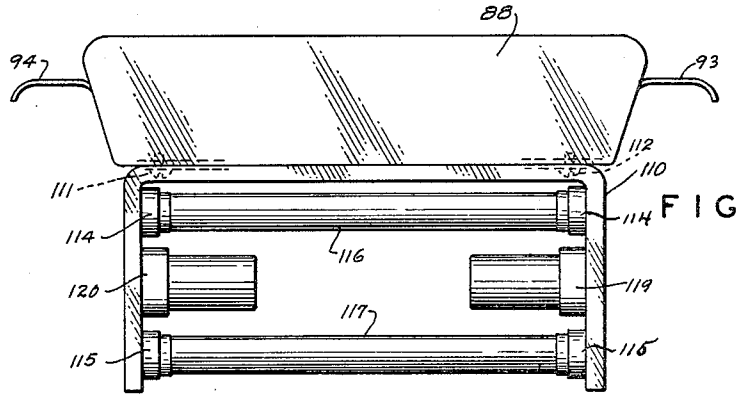


FIG. 13.

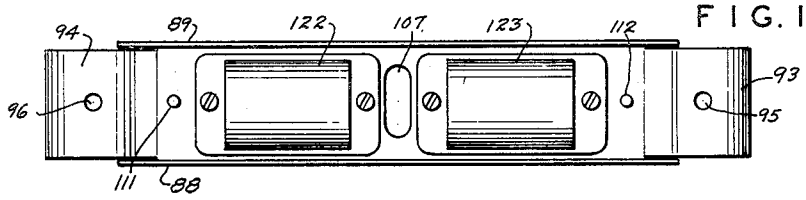


FIG. 14.

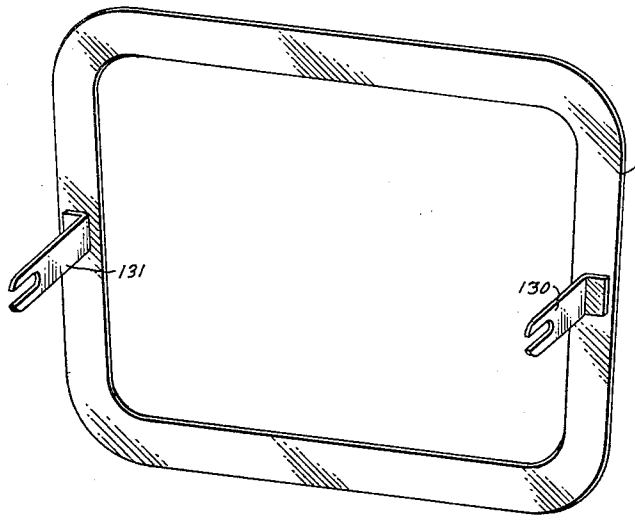


FIG. 15.

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United States Patent Office

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ELECTRIC ILLUMINATED SIGN

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Filed Nov. 20, 1961, Ser. No. 153,549
3 Claims. (Cl. 40—132)

This invention relates to improvements in electric illuminated signs and more particularly to an illuminated sign with basic parts constructed to be interchangeable one with another so as to facilitate the assembly of selected component parts into a complete structure adapted to a particular kind of mounting, change in face, or kind of electric illumination.

Accordingly, it is one of the objects of this invention to provide a plurality of structural parts which may be selectively combined in an assembly adapting the sign to different manners of mounting and exhibition.

It is another object of this invention to provide a plurality of structural parts from which illuminated signs can be assembled having, when assembled, a similar appearance.

It is another object of this invention to provide a plurality of structural elements, or parts, from which selective choice for a final sign assembly can be made.

It is still another object of this invention to provide a plurality of structural parts, or elements, from which a plurality of illuminated signs can be assembled, all of which are ornamental, all of which are similar in appearance, and all of which have utilitarian features in common.

The illuminated sign of this invention has three basic parts, or elements, which can be assembled to form an illuminated sign. These parts are referred to as a frame, a door frame and a light receptacle for electric lights. All of these elements may take different specific forms and yet be useable together. By selective choice in assembly of these parts, or elements, variation can be made in the manner of installation and in the manner in which the sign is exhibited. There are still other elements, such as a mounting plate, which may be substituted for a door. This provides for a different wall attachment, or mounting. There are also forms of light hangers capable of fitting the assembly to provide variation in mounting. The illuminated sign, therefore, has features which are, as will be pointed out, both ornamental and unique in a utilitarian sense so that the sign is capable of the necessary changes to meet the ordinary demands of any location by simply varying the parts, or elements, selected for assembly.

Other objects and advantages of the invention will appear from the following detailed description, which is in such clear, concise and exact terms as will enable anyone skilled in the art to make and use the invention when taken with the accompanying drawings, in which:

FIG. 1 is a view in perspective of an electric illuminated sign according to this invention which has an assembly of parts adapting the sign for recessed mounting in a building wall;

FIG. 2 is a view similar to FIG. 1 showing a different assembly of parts adapting the invention to an overhead support from the building structure;

FIG. 3 is a view similar to FIG. 1 illustrating a different assembly of parts to form the same kind of an illuminated sign adapted by its construction to wall mounting;

FIG. 4 is a side elevational view taken in a direction looking directly into an opening in a basic type of frame forming one of the elements of the assembly in FIGS. 1, 2 and 3;

FIG. 5 is a view in perspective looking at the inside of a side inner frame such as used to build up the assembly of an outer frame for the illuminated sign;

FIG. 6 is a view in perspective looking at the outer side of an inner frame element, such as used top and bottom in the outer frame to build up a frame assembly;

FIG. 7 is a view in perspective of a spacer clip such as used on the sides of a side inner frame, such as shown in FIG. 5;

FIG. 8 is an elevational view looking at the inside of one form of door frames which may be used to build up the assemblies of FIGS. 1, 2 and 3;

FIG. 9 is a view similar to FIG. 8 of another form of door frame;

FIG. 10 is a side elevational view of a back plate, such as used in the assembly shown in FIG. 1;

FIG. 11 is a side elevational view of one form of light fixture brackets which may be used in any of the assemblies;

FIG. 12 is a top plan view of FIG. 11;

FIG. 13 is a side elevational view of another form of light fixture brackets which may be used in any of the assemblies shown in FIGS. 1, 2 or 3;

FIG. 14 is a top plan view of the light fixture hanger shown in FIG. 13; and

FIG. 15 is a perspective view of a molding strip particularly adapted to the assemblies shown in FIG. 1.

In the following detailed description, similar reference characters are used to indicate like parts. The following detailed description is made with particular emphasis placed upon exit signs of the illuminated type which are used to comply with city ordinances relating to building structures. These ordinances controlling sign location, mounting and intensity vary widely from city to city. Standardization is, therefore, not particularly desirable not only for this reason, but also for the reason that demand has increased for equipment of this kind which will blend with the interior or exterior of the building structure. A pleasing design is desirable, but it is equally desirable to avoid a custom-made product from a cost point of view. As will be realized from careful inspection of FIGS. 1–3 of the drawings, applicant's illuminated sign is assembled from elements forming the exterior frame structure which are pleasing in appearance and yet adaptable to the various requirements of any installation by the mere selection of suitable components, elements or parts during assembly. Selection of the desired components, elements, or parts can provide the same advantages as so-called custom construction. At the same time, a plurality of illuminated signs can be produced with features in appearance which are common to all. Thus within the building, all of the illuminated signs will have matching features.

The illuminated sign, shown, for example, in FIG. 1, has an outer housing frame **1** with identical side flanges **2**, one of which is shown forming a continuous band around the illuminated sign. The appearance of this

band from the front or from the back is the same. Preferably, the housing frame 1 is trapezoidal in configuration, as shown in FIG. 4, and is provided with rolled edges for maximum strength and rigidity. Assembled with the housing frame 1 is a door frame, generally indicated as 4, having an opening 5 and mounting a fiber glass face plate 6 firmly held in the opening 5. This fiber glass face plate 6 is a light which bears the exhibit, in this case, an exit sign. The opposite opening in the housing frame 1 is, in this case, closed by a back mounting plate, such as shown at 9 in FIG. 10. With reference to this figure, mounting plate 9 is of sheet metal and trapezoidal in shape to fit within the housing frame 1. It has punched therein a plurality of slots 11 through 18, inclusive, permitting the passage of attaching screws, or rivets, to secure the back mounting plate 9 in place in a manner hereinafter described. The plate 9 also has embossed therein a plurality of dimples 19 through 22 which project in a direction to contact the wall structure and position the backing plate in spaced relation thereto. In the backing plate are a plurality of so-called knock-outs, indicated as 24 through 30, which will provide the necessary flexibility to accommodate any type of mounting, lug screw, etc., as well as a passage for electric cable.

Returning now to FIG. 1, mounted to abut the forward inturned flange 2 of the housing frame 1 is a detachable molding 32. This molding 32 will cover the edge of the recess formed in the building wall and fit flush against the wall surface so that only the door frame 4 protrudes. This gives a so-called flush type mounting which is desirable in some installations.

The assembly of parts in FIG. 2 uses two of the elements, such as shown in FIG. 1, and already described. As will be readily apparent, this modification is assembled with two doors 4 on opposite sides of the housing frame 1 making an illuminated sign with oppositely facing face plates or lights visible from both sides of the sign. Housing frame 1 is provided with knock-outs 35 at opposite sides and at the top so that brackets can be applied for mounting the sign on either side, or at the top thereof. In this modification, mounting bracket 36 is at the top of the housing frame 1 and held in place on a mounting tube 37 which in turn forms a support to the building structure suspending the illuminated sign.

In FIG. 3, the illuminated sign takes on a different form. Here the door frames 4, light 6 are the same as in FIGS. 1 and 2. The frame, however, is triangular in top plan and trapezoidal in outline when viewed from face on. Preferably, the illuminated sign of FIG. 3 is mounted by means of a back plate very similar to that shown in FIG. 10. This provides a wall mounting in this case over an exit. The sign is illuminated at both faces 6 and may be viewed from more than one direction.

Turning now from the several arrangements of parts, elements, or components into illuminated sign adapted for different mountings, but similar in appearance to the specific component which can be used to make up the illuminated sign, attention is directed to FIG. 4. The outer housing frame 1 with its inturned flanges 2 contains therein an inner frame, indicated generally as 40. With specific reference to FIGS. 4, 5 and 6, this inner frame is composed of two identical side inner frame members 41 and two identical top and bottom inner frame members 42. In each case, a description of one will serve for both. Side inner frame member 41 is a channel-shaped member with a base 44 and side flanges 45 and 46. It is bent top and bottom at 47 and 48, respectively, so that the base portion 44 seats face to face with the inner side of the housing outer frame member 1 with the flanges 45 and 46 spaced inwardly of the flanges 2. Midway of the channel-shaped member 41 are apertures 49 and 50 which register with knock-outs 35 in the outer surface of the housing outer frame 1. A central aperture 51 is provided for a supporting stud. Along the sides of the channel-shaped inner side frame 41 are slots 53 and 54 in flange 46 and 55 and 56 in flange 45. These slots receive spacer clips, such as shown in FIG. 7, which are small angular pieces 58 with hooks 59. In each case, the spacer clips are mounted in the same way, each is inserted through a slot in either flange 45 or 46 and then the clip portion 60 is secured to the inner side of the flange in such a way that the end of the hook portion 59 abuts the inner side of the flange 2. These spacer clips determine the spacing of the flanges 45 and 46 between the flanges 2 and also form part of a hinge means to support the door, as will be later pointed out.

The top and bottom inner frame members 42 and also channel-shaped sections with base 61 and flanges 63 and 64. The base portion 61 is apertured at 65 and has raised dimples 66 and 67 apertured centrally and protruding inwardly to secure fittings of various kinds, as will later appear.

The inner frame 40 is assembled within the outer housing frame 1 by first placing the inner frame members 42 top and bottom therein and then slipping in the side inner frames 41. Since the ends of the side inner frame 41 are received within the ends of the top and bottom inner frame channel members, then the spacer clips on the side inner frame members act as positioning means for the entire inner frame which is then spot welded to the outer housing frame 1 to form an integral housing. When so assembled, the aperture 65 forms a seat for a down light which may be secured in place within the bottom inner frame member 42 by clips and bolts which are secured within the apertures of the dimples 66 and 67. The same elements last-mentioned also form the means for supporting a light fixture bracket on the top inner frame member 42. Various forms of these brackets will be later described in detail.

Turning now to FIG. 8 and FIG. 9, each door frame 4 can be apertured at 5 to receive a light 6. The light 6, in turn, is held in position by lower clips 70 and 71 and upper clips 73. The latter are at the ends of an arm 74 held in position on a bracket 75 integral with the door frame by a suitable screw 77. The light, of course, carries the legend, in this case, exit. One edge of the door frame 4 has integral hooks 79 and 80 which have tine elements depending therefrom spaced to be received within the hooks 59 of the spacer clip, shown in FIGS. 5 and 7. Together the tines and clips form a hinge means. This being so, it will be readily appreciated that the door can be hung at either side of the housing outer frame 1. The opposite edge of the door frame 4 carries a hook type lug 82, and this, in turn, is received in one of the openings 84 in the flange 46 of either side inner frame 41. Hook lug 82 penetrates the slots 84 and hooks on the bottom so as to secure the door frame against unintentional opening.

Alternatively, the door frame 4 may take the form shown in FIG. 9 in which the legend is cut out of the metal of the door frame and not printed on the light 6. In other words, the opening 5 in the door frame face has a letter-shape so as to form the legend and the light 6 secured therein is merely a transparent or translucent material of the desired color.

From the description so far, it will be apparent that standard elements can be used interchangeably to form the housing which is suitable for any type of mounting. Even the inner frame is formed of members which are interchangeable and will serve in at least two positions. Not one of these members is what would be termed a custom job. This is also true of the door frame, the legend can be carried as part of the light 6, or alternatively, the light 6 can be a single color and the openings in the face of the frame form the letters for the legend. Regardless of the side on which the hinges are attached,

they are adaptable to the hinge means or the part thereof on the housing, and, in addition, the housing may receive the door or a back mounting plate. These are the features which can be constructed from alternative pieces so as to fit anticipated use.

Turning now to FIGS. 11 and 12, the light fixture bracket has a channel-shaped member **88** with side flanges **89** and **90** formed of sheet metal. Supporting brackets **93** and **94** with apertures **95** and **96** are suitably spaced so as to register with the apertured bosses **66** and **67** in a top or bottom inner frame member **42**, preferably the top frame member **42**. Self-tapping screws may be inserted through apertures **95** and **96** and threaded into the dimples **66** and **67** to hold the light fixture bracket **88** in place. Within the channel **88** of the light fixture bracket are two lamp sockets **99** and **100**, each of which is secured in place by a bolt **101** which projects through the center of the socket and an aperture centrally of a pair of legs in the bracket **102**. A nut **103** bears against the upper side of the bracket **102** forcing its dependent legs against the bottom surface of the light fixture bracket on either side of the aperture in which the light socket **99** is mounted. This arrangement permits removal of the lamp sockets. The bottom surface of the light fixture bracket **88** has apertures **105** and **106** at its opposite end, it also has a plurality of knock-outs, such as **107**, centrally between the lamp sockets for a light source. This adapts the light fixture bracket for modification to handle fluorescent lighting tubes as a light source. This conversion is shown in FIGS. 13 and 14, respectively. A light fixture hanger **110** is secured to the bottom of the light fixture bracket **88** by self-tapping screws **111** and **112** threaded into the apertures **105** and **106**. On the light fixture hanger are pairs of sockets **114** and **115** for supporting the fluorescent lighting tubes **116** and **117**, respectively. Sockets **119** and **120** are for receiving the removable cut-outs of conventional design. After the lamp sockets **99** and **100** are removed, the channel **88** is provided with a pair of transformers **122** and **123** suitably secured to the bottom surface thereof by means of screws of the self-tapping kind threaded into the knock-outs **105** and **106** and two of the knock-outs, indicated as **107**. The central knock-out in this group accommodates the wiring to the sockets holding the lamps and the cut-outs.

The structure for the lamps, therefore, is also formed of standard parts, some of which are replaceable and some of which can be added to form a conversion from one form of light source to another. In case the lights placed in the faces of the door frames are of the electro luminescent type instead of plain lights, the conversion shown in FIGS. 13 and 14 is readily applicable. All that is necessary is to plug in a connection to the lamp sockets from the electro luminescent screens.

FIG. 15 is a more detailed view of the molding **32** illustrating the configuration thereof and its manner of attachment by the lugs, or tabs, **130** and **131** which are forked at their ends for receiving bolts placed in the knock-outs **35** on either face of the outer housing frame **1**.

It is believed that the above detailed description is so specific that the operation of the device will be obvious. Suffice to say that the choice, or selection, of elements combined adapts the electric sign described to various types of support and various types of mounting.

Changes in and modifications of the construction described may be made without departing from the spirit of my invenion or sacrificing, its advantages.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent is:

1. An illuminated sign constructed as an assembly of basic parts interchangeable one with another to facilitate the selection and assembly of selected basic parts into a complete structure to meet the requirements of a given installation comprising, a generally rectangular hoop-shaped outer housing and frame with openings at both faces, reinforcing flanges on said frame at the edges thereof, an inner frame seated between the flanges of said outer frame having peripheral flanges projecting inwardly of said reinforcing flanges, spacer clips secured to the flanges of the inner frame at spaced intervals therealong and projecting outwardly toward said reinforcing flanges, a light fixture bracket within said outer housing frame and supported by said inner frame, a door frame for either of said openings in said outer housing frame, walls on said door frame adapted to be received through said openings and against the outer face of the flanges on said inner frame to prevent leakage of light between the edges of said door frame and said inner frame, lugs on said door frame spaced to engage said spacer clips to form therewith hinge means for said door frame and to hold said door closed by interlocking with one of said inwardly projecting flanges on said inner frames, a light in said door frame, and a mounting means for said sign adapted for attachment to different locations on said outer housing frame.

2. An illuminated sign constructed as an assembly of basic parts interchangeable one with another to facilitate the selection and assembly of selected basic parts into a complete structure to meet the requirements of a given installation comprising, a generally rectangular hoop-shaped housing and outer frame having top, bottom, and sides and openings in both faces, inturned continuous flanges on said outer frame surrounding each of said openings, an inner frame within the outer frame, duplicate side members and duplicate top and bottom members secured at the top, bottom and sides of said outer frame, inwardly projecting flanges on said members projecting inwardly of the opening in said outer frame, spacer clips secured to said inwardly projecting flanges at intervals therealong to project outwardly thereof against the inside of said inturned continuous flanges and uniformly space said inner frame with respect to said inturned continuous flanges, a light fixture bracket for mounting an electric light within said frame between said openings and secured to said inner frame at the top of said outer frame, a door frame for either of said openings in said outer frame, top, bottom and side walls on said door frame adapted to be received through either of said openings and into contact with the outer face on the inwardly projecting flanges of said inner frame to prevent leakage of light between the edges of said door frame and said outer frame, lugs on said door frame walls spaced to engage spacer clips secured to said inner frame to form therewith hinge means for said door and to hold said door closed by interlocking with one of said inwardly projecting flanges, a light in said door frame, and a mounting means for said sign adapted for attachment to different locations on said outer frame.

3. An illuminated sign constructed as an assembly of basic parts interchangeable one with another to facilitate the selection and assembly of selected basic parts into a complete structure to meet the requirements of a given installation comprising, a hoop-shaped housing and outer frame having top, bottom and sides forming a trapezoid and openings in both faces of the same shape, inturned continuous flanges on said outer frame surrounding each of said openings, an inner frame within the outer frame, duplicate side and duplicate top and bottom members secured at the top, bottom and sides of said outer frame, inwardly projecting flanges on said members projecting inwardly of the openings in said outer frame, spacer clips secured to said inwardly projecting flanges at intervals therealong to project outwardly thereof against the inside of said inturned continuous flange and uniformly space said inner frame with respect to said inturned continuous flange, a light fixture bracket for mounting an electric

light within said outer frame between said opening and secured to said inner frame at the top of said outer frame, a door frame of trapezoidal shape for either of said openings in said outer frame, top, bottom and side walls on said door frame adapted to be received through either of said openings and contact with the outer face on the inwardly projecting flanges of said inner frame to prevent leakage of light between the edges of said door frame and said inner frame, lugs on said door frame walls spaced to engage said spacer clips secured in said inwardly projecting flanges to form hinge means for said door and to hold said door closed by interlocking with one of said inwardly projecting flanges, a light in said door frame, and a mounting means adapted for attachment to different locations on said frame.

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