March 11, 1969 W. BANK 3,431,666

ELECTRIC SIGN LETTER CONSTRUCTIONS

Filed June 27, 1966

FIG.1

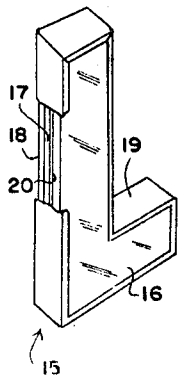


FIG.2

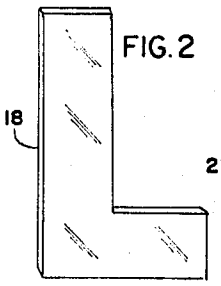
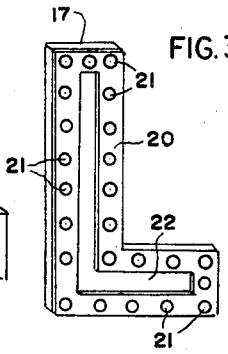


FIG.3



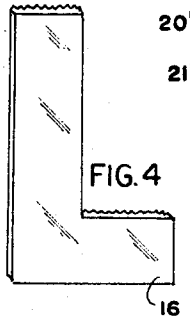


FIG.4

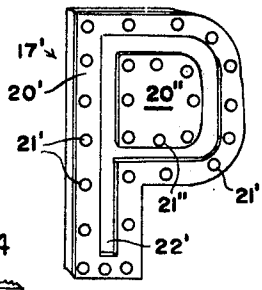


FIG.7

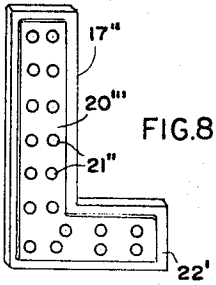


FIG.8

FIG.5

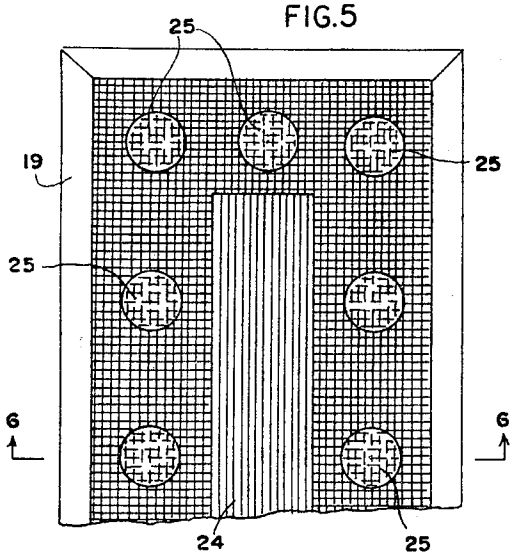
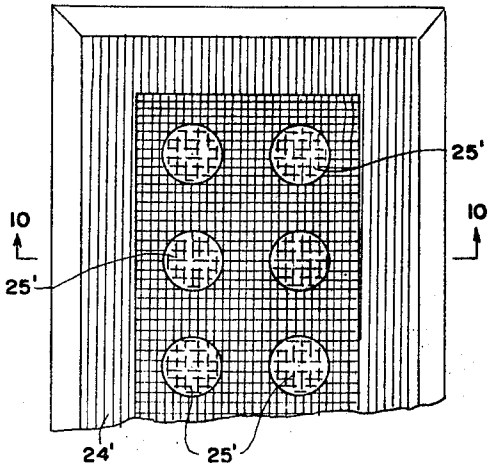


FIG.9



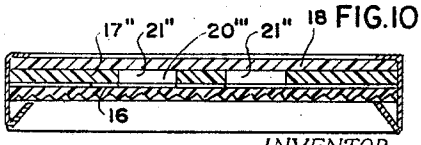


FIG.10

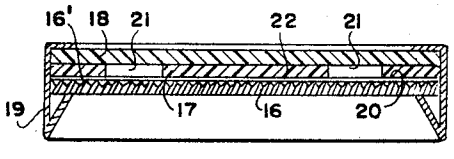


FIG.6

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ELECTRIC SIGN LETTER CONSTRUCTIONS

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ABSTRACT OF THE DISCLOSURE

The sign letter structure is a laminate of identical letter-forms, comprising a rear layer of transparent, yellowish plastic, a front layer of translucent, ribbed plastic, an intermediate layer of transparent, reddish plastic, and important is a layer of substantially opaque material which may be a paint coating on the front surface of the intermediate layer. Said auxiliary or coating layer covers only part of the intermediate layer, so as to expose a letter of the main form. The intermediate layer and its coating have holes also determining said letter.

The present invention relates to electric sign letter constructions which are to be illuminated from behind.

The principal object of this invention is to provide novel and improved electric sign letters or other indicia, of the character mentioned, which when illuminated from behind, present the letter in one color, and around or within it, there is produced the appearance of a multiplicity of small illuminated bulbs in a different color.

Another object thereof is to provide novel and improved electric sign characters of the kind set forth, which are easy to make at reasonable cost, and which are efficient in carrying out the purposes for which they are designed.

Other objects and advantages will become apparent as this disclosure proceeds.

For one practice of this invention, the letter structure is a laminate of a rear layer of transparent, yellowish plastic, a front layer of translucent, ribbed plastic, an intermediate layer of transparent, reddish plastic, and a layer of substantially opaque material which may be a paint coating, on the front surface of said intermediate layer. The three principal layers are preferably all one size, and each is of the letter form. The auxiliary or coating layer covers only part of the intermediate layer, so as to expose a letter which has the general form of the composite structure. A multiplicity of holes are drilled through the intermediate and auxiliary layers, so the rear panel covers the rear ends of said holes, and the front panel covers the front ends of said holes. The composite letter structure is within a perimetrical frame.

Various embodiments of this invention will now be described in detail, for which I shall resort to the accompanying drawing forming part of this specification, in which drawing, similar characters of reference indicate corresponding parts in all the views.

FIG. 1 is a perspective view of a letter structure of L-form, embodying the teachings of this invention. A part of the perimetrical frame around this letter structure is shown broken away to expose the several layers of the laminated letter.

FIG. 2 is a perspective view of the rear layer of said letter.

FIG. 3 is a perspective view showing the intermediate layer with its auxiliary layer, provided with the mentioned holes therethrough.

FIG. 4 is a perspective view of the front layer of the letter structure.

FIG. 5 is an enlarged fragmentary view showing the front of the letter structure of FIG. 1, as it appears when illuminated from behind. The central part of this view is

lined to indicate a color of reddish hue. The circular areas are lined to indicate a yellowish or gold-like color. The background is lined to indicate the color black.

FIG. 6 is a section taken at line 6—6 in FIG. 5.

FIG. 7 is a perspective view of the intermediate layer with its auxiliary layer, provided with holes therethrough, of a letter of P-form, constructed in accordance with the scheme of FIG. 3.

FIG. 8 is a perspective view of a modified construction for the intermediate layer with its auxiliary layer, provided with holes therethrough, of a letter L-form to be used in conjunction with the layers shown in the FIGS. 2 and 4.

FIG. 9 is a view like FIG. 5, but of a letter structure comprising the components shown in the FIGS. 2, 8 and 4.

FIG. 10 is a section taken at lines 10—10 in FIG. 9.

In the preferred embodiments shown in the drawing, the numeral 15 designates generally a framed letter structure of L-form, comprised of L-shaped layers 16, 17 and 18, which are of identical size within a perimetrical metal frame 19. The front layer 16, is cut from a translucent, colorless or whiteish, ribbed plastic plate. The intermediate layer 17, in this embodiment, is cut from a transparent plastic plate of reddish color. The rear layer 18, is cut from a transparent plastic plate of a yellowish color. The front surface of the intermediate layer 17, is covered with a thin layer or merely a coating of opaque material 20, here chosen of black color, around its entire perimetrical zone which is made of appreciable width. There is a multiplicity of substantially equispaced holes 21 of appreciable diameter through said layer 17 and its coating 20. In this instance, these holes are arrangement of an open letter L, around the L-shaped bare central region 22 of the surface of said later 17. The frame 19 is made of channel-form strip material, to serve to hold said layers 16, 17, 18 in superposed assembly therein.

In a sign structure not shown, a source of light 23, operated electrically, is positioned to illuminate the letter structure 15 from behind. In FIG. 5, this letter structure is shown as it appears when the light 23 is on. The visual effect is that a letter L of a light red color, simulating a neon tube's color, appears as an illuminated block letter 24 along the median of the letter structure, surrounded by a multiplicity of spaced illuminaated circular areas 25 of a yellow color, forming an open illuminated letter L which is segmental, around the illuminated letter 24. It is evident that the illumination 24 results from light issuing from 23 and passing through the rear layer 18, then through the bare section 22 of the middle layer 17, and finally through the front layer 16. The illuminated circular areas 25, result from the light 23, passing rays through the rear layer 16, which then pass through the holes 21, and finally through the front layer 16. The rib formation 16' on a surface of the front layer 16, adds diffusion effect. The aggregate illuminated showing, in appearance to a viewer, and especially from a distance when the letter is a few feet tall, and even if smaller, is that of spaced illuminated bulbs around an illuminated block letter. A single light source 23, gives the impression that there are many light sources and that they are of different colors.

The letter L has been chosen, and likewise the stated colors have been indicated, as merely illustrative. The character may be any letter or indicia, intended for the transmission of intelligence or to provide a decorative design effect. When the letter has a hole as for instance in the letter P, the general formation described is followed, so that the bare portion 22' defines such letter. The numeral 20'' designates an opaque coating on the layer 17', within which, around its perimetrical lane, the holes 21'' are provided, so the holes 21' and 21'' shall

define a border around the block letter, which is the bare portion **22'** of the front surface of the intermediate layer **17'** of the letter P. The associated layes for the complete P-form letter structure, would of course be a similarly sized rear and a front layer, made respectively of the stock plate material used for making **18** and **16**.

Referring now to FIG. 8, the numeral **17''** designates generally a modified form of intermediate layer to be used in place of **17**, in the letter structure **15**, so the new letter structure will be **15'**, which is shown in FIG. 9 as it appears when illuminated from behind. The appearance here is that of an illuminated open light red letter L indicated by the numeral **24'**, which is studded with a series of illuminated yellow circular areas **25'** spaced within the confines of said open letter illuminated outline within the darkened inner background thereof, and arranged to form the letter L. For this, the construction of the intermediate layer **17''** is to have the entire inner area of the forward surface thereof, coated with an opaque material **20'''**, which leaves the perimetrical zone **22'** bare. The holes **21''** are through the coated part, and arranged in an L-form within the open L-form letter offered by the bare area which is the outer zone **22'**.

It is evident that no light will pass through the opaque coatings **20**, **20'**, **20''** or **20'''**. Hence the background **26** in FIG. 5, and the background **26'** in FIG. 9, will appear black when the letter structures **15** and **15'** are illuminated from behind by a light source as **23**.

The layers or members of the laminate are preferably of plastic and so they may be cut from stock plastic plate material. Of course they can be molded, and may of glass. The front member **16** may be colorless, clear, some shade of white or even slightly tinted. The expression "sparse in color" employed in the appended claims, shall be deemed to include all of these.

This invention is capable of various forms and numerous applications without departing from the essential features herein disclosed. It is therefore intended and desired that the embodiments shown herein shall be deemed merely illustrative and not restrictive, and that the patent shall cover all patentable novelty herein set forth; reference being had to the following claims rather than to the specific description and showing herein, to indicate the scope of this invention.

I claim:

1. In a sign letter structure of the type to be illuminated from behind, a laminate comprising front, intermediate and back members which are generally flat, in coinciding superposed relation and through each of which light can pass; each of said letters being of a single letter-form; the front member being of material which at most is sparse in color; the other members being of material of different relatively deep colors respectively; said intermediate member having a relatively thin opaque layer covering only part of its surface and determining a similar form along said letter form; said intermediate member also having a multiplicity of spaced holes through itself and said opaque layer; said holes determining a form similar to and along said letter form.

2. A sign letter structure as defined in claim **1**, wherein the color of the back member is a relatively light color and that of the intermediate member is relatively dark.

3. A sign letter structure as defined in claim **2**, wherein the color of the back member is yellowish.

4. A sign letter structure as defined in claim **1**, wherein the front member is translucent and wherein the other members are transparent.

5. A sign letter structure as defined in claim **1**, wherein the letter-form determined by the opaque layer is one of the open type.

6. A sign letter structure as defined in claim **1**, wherein the letter-form determined by the opaque layer is one of the block type.

References Cited

UNITED STATES PATENTS

539,957	5/1895	Levy	40—141
1,407,345	2/1922	Wirsching	40—141
1,887,534	11/1932	Wold	40—133
2,268,258	12/1941	Lytle.	

FOREIGN PATENTS

743,374	1/1933	France.

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U.S. Cl. X.R.

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