SIGN LETTER CONSTRUCTIONS
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This is a continuation-in-part of application Serial No. 325,089, filed November 20, 1963 which application is now abandoned.

The present invention relates to letters for signs and more particularly to letter constructions to be mounted on a surface. Each letter structure comprises a generally flat letter-form fitted in a perimetrical frame of strip material and recessed therein. In essence, said frame is a tubular piece whose height determines the thickness of the composite letter structure. Those letters which have openings therethrough, also have such strip within and around such openings. Further, said letters afford novel effects when illumination is directed forwards or behind them.

Heretofore, letter structures of this class have strip material frames usually of stainless steel. Bonding the parts together and mounting the composite structures is no easy task and too often junctures become loose. The high cost of such construction kept this item from becoming a big seller.

It is therefore an object of this invention to provide novel and improved sign letter constructions of the character described, whose frames present the appearance of metal, are suitable for outdoor work, are easily manufactured to sell at a reasonable and economical cost and which are strongly assembled and securely mountable.

Another object thereof is to provide that all junctures of the letter form and their frame pieces shall be plastic and hence a strong bond can be easily effected by any suitable solvent or cement which is readily available and proficient.

A further object of this invention is to provide novel and improved frame pieces made of strip material which is a lamination or an extrusion comprising an intermediate metal strip faced by outer transparent plastic strips or imbedded in plastic material, and although the metal ply imparts the appearance of metal to the composite frame, the coloring of the plastic plies can be chosen so that the appearance shall be of another metal.

Another important object of the invention is to provide novel and improved sign letter constructions of the kind set forth which affords novel and pleasing decorative effects when illuminated from behind.

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

For one practice of this invention, a generally flat letter-form which may be cut from a transparent plastic plate, has a frame of strip material tightly fitted around it; the width of such strip being several times the thickness of the letter-form and the letter-form being recessed in such frame. Said strip material is a lamination or extrusion in which the middle ply is a metal between outer transparent plies. The perimetrical edges of the letter-form being in abutment with a plastic ply, it is bonded thereto by a suitable transparent solvent or cement. Said strip material is formed with an integral edge which is along the perimetrical edge of the composite face of the composite letter structure. In another embodiment, said edging is a separate piece. In all instances, a perimetrical edge of the edging is in contact with the outer face of the letter-form whereby plastic material of said edging is against said face. The metal ply of said strip material and of said separate edging, may be faced with plastic or imbedded therein.

Other incidents of structure will be set forth and a more detailed description of the preferred embodiments of this invention will now be given.

In the accompanying drawings forming a part of this specification, similar characters of reference indicate corresponding parts in all the views.

FIG. 1 is a perspective view of a letter structure embodying teachings of this invention.

FIG. 2 is an enlarged section taken at line 2—2 in FIG. 1.

FIG. 3 is a fragmentary view of the strip material as it appears after proper notches have been cut therein to make a bend to form a right-angular corner to receive a corner of the letter-form.

FIG. 4 is a top plan view of FIG. 3.

FIG. 5 is an enlarged section akin to FIG. 2, but of a slightly modified construction.

In the drawing, the numeral 15 designates generally a composite letter structure comprising a generally flat transparent or translucent letter-form 16 which may be cut from a plastic plate or cast, and tightly fitted around its perimeter, is a frame indicated generally by the numeral 17 which is made of strip material bent to conform. This strip stock from which the frame is made, comprises a lustrous strip of bendable iron 18, or aluminum for example, which preferably is formed as a very shallow channel having one wall 19 in perpendicular relation and its other wall 20 in acute angle relation with the inner floor wall surface 21 of such channel-form. Said metal strip 18 is faced with transparent plastic as indicated by the numerals 22, 23 and preferably is entirely imbedded in plastic as shown in FIG. 5 so it is provided with the plastic fill-in which serves as a ledge 24 against which the letter form 16 rests. In each such instance, the metal strip may be said to be sandwiched between plastic plies. A suitable transparent solvent or cement is applied by brush or other applicator along the exposed junction lines made by said letter-form 16 and its frame 17, to secure the assembly. If the platics used are of the acrylic family, anyly-acetate is suitable to make the bond. In the form shown, the strip stock of which the frame is made, is an extrusion. To make the necessary bends in the strip 25 to form a frame, suitable slits or notches as 26, 27 need be cut in the channel walls 19, 20, as is well known to an artisan. Said plastic facings 22, 23 of the strip material 25 and 26 are either colorless or colored. If for instance the metal strip 18 is silver color and the plastic facings are colorless, the frame 17 will present the appearance of silver or steel, but if said plastic facings are of amber color, the frame will have the appearance of brass or gold. Of course, other color combinations may be used.

The outer plastic face of the channel wall or flange 19, gives ample contact to have the letter structure 15 imbedded onto a surface 28, and the viewable edging “A” is integral with the frame body proper. If the strip material 25 is a lamination of three plies as mentioned, without imbedding the metal component as in FIG. 5, then the longitudinal edges of the metal strip and of its plastic facings are exposed, and the edges 14, 14 of said strip, which contact the letter-form 16, give sufficient area for cementing them onto the face of said letter-form. Said facings are of sufficient thickness to make the frame sturdy, and so that when the letter-form 16 is illuminated from behind by for instance the electric incandescent bulb 30, the edge 14 will pick up illumination from the letter-form and transmit the light rays through the edging “A” which are then emitted at the front perimetrical edge 31 of the frame around its entire perimeter. This edge illumination is further aided in the embodiment shown in FIG. 5, be-
cause of the substantial thickness of plastic in contact with the letter-form, offered by the ledge 24. It is therefore important that the outer plastic layer 22 shall be of a thickness which will collect and transmit the light rays to effect edge illumination.

In the modified embodiment shown in FIG. 6, the edging 25 is a separate piece consisting of strip material of channel form and set to straddle the marginal edge of the plastic faced metal strip forming the frame body 25 around the letter form 16. Said edging 25 may be a laminating comprising the metal component 18 having plastic outer facings, or said metal strip may be embedded in plastic 22, 24 as shown, and may be extruded as a channel which is then bonded to the frame member 25 so that the letter-form 16 rests against it to afford edge illumination as afore-mentioned. The general character of the edging 25; the strip material 25 and the strip material of 25 are identical.

Though the cross-section of the edging component “A” is shown substantially triangular and that of the edging 25 semi-ovule, their cross-sectional shapes may be made any desired shape to suit the designer.

In letters having openings therethrough, as the letters “A,” “B,” “D,” “O,” “P” and “Q,” the tubular frames of strip material will be not only around their outside perimeters, but there will be tubular frames tightly fitted through such openings, as well known in this art.

The mounting flange 19 may be omitted in the frame of FIG. 2, and additional mounting surface may be provided by a strip 19 bonded to and around the other marginal edge of the frame as in FIG. 6.

Of importance to note is that all junctures of the letter-form to frame and of the edging 25 to become part of the frame, are plastic to plastic and hence easily bondable.

This invention is capable of numerous forms and various 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 herein to indicate the scope of this invention.

1. A sign letter structure as defined in claim 1, wherein the portion along the entire front peripheral edge of the frame is bent inwardly towards the letter-form and spaced from the remainder of said frame; said bent-in portion constituting said edging.

2. A sign letter structure as defined in claim 2, wherein the space between said bent-in portion and the frame is filled with a transparent plastic forming a ledge; the letter-form being in contact with said ledge.

4. A sign letter structure as defined in claim 1, wherein said edging constitutes a channel whose plies are channel-shaped; said channel edging being on, along and straddling the entire front edge of said composite strip member.

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