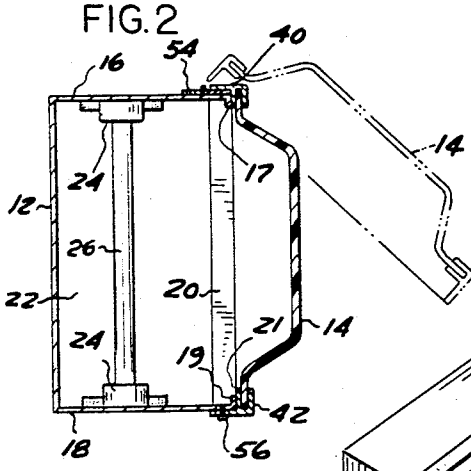
Dec. 31, 1968 S. GOODMAN 3,418,738

SIGN PANEL

Filed April 6, 1966

FIG. 2



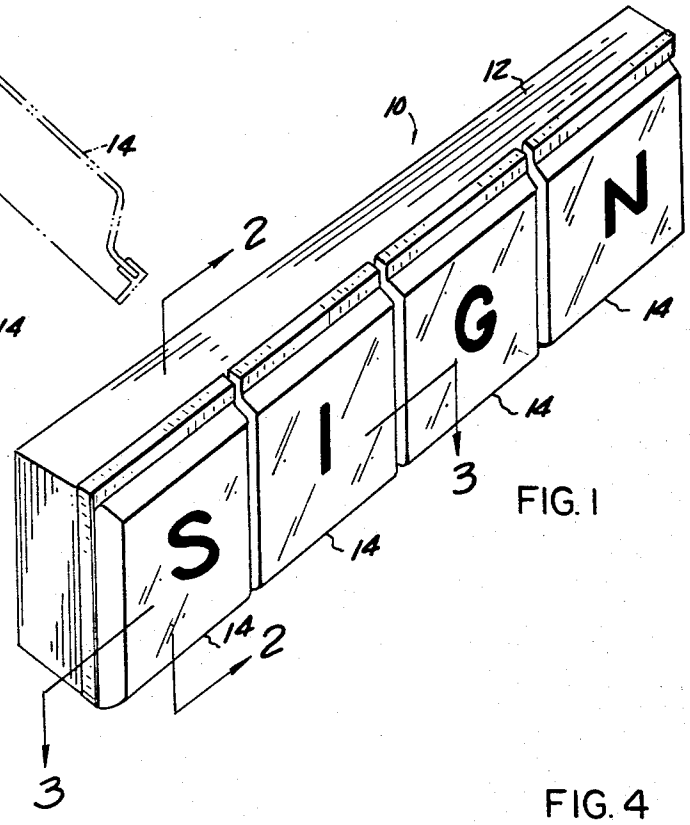


FIG. 1

FIG. 4

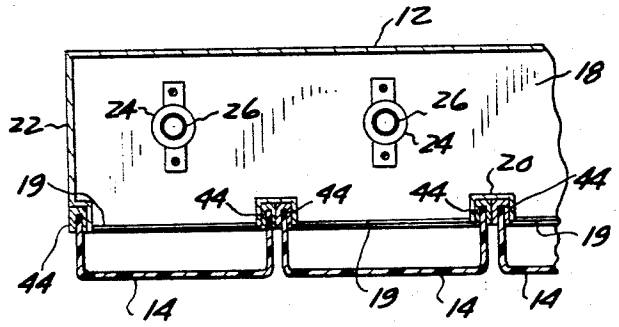
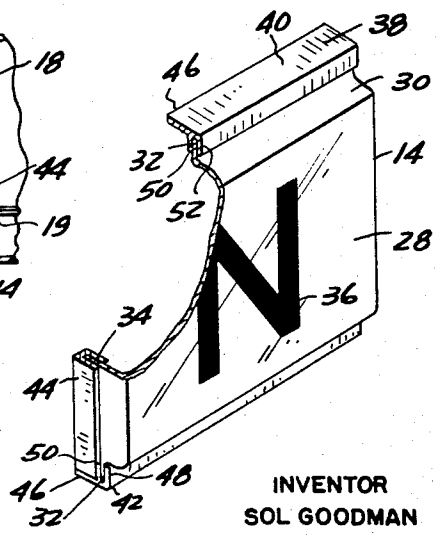


FIG. 3



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United States Patent Office 3,418,738 Patented Dec. 31, 1968

3,418,738

SIGN PANEL

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Filed Apr. 6, 1966, Ser. No. 540,765
7 Claims. (Cl. 40—130)

The present invention relates to advertising devices and more particularly to an improved face panel for an illuminated sign board structure.

The present invention has particular application to those types of signs which are made up of a plurality of translucent or transparent rectangular face panels each of which normally has lettering formed thereon and which are mounted side edge to side edge in a support structure to form an elongated horizontal sign. Normally the support structure includes a housing provided with upper and lower horizontal support surfaces and a plurality of regularly spaced U-shaped channels defining a plurality of rectangular, co-planar openings. The face panels conventionally have raised sides terminating in a peripheral flange extending transversely to the sides. Each of the face panels is mounted in a peripheral extruded frame having an F-shaped cross-section with a pair of parallel flanges defining an inwardly facing slot. The face panel flange is mounted in the frame slot such that the unflanged section of the frame extends rearwardly of the face panel. The upper side of the frame is hinted to the support housing so that the panel can be raised and lowered into a position where the sides register in the U-shaped channels.

Conventionally, the face panels are press formed of an acrylic plastic so that they present a dished face on which silhouette letters are provided. The support housing includes an illumination compartment behind the face panels and provided with a source of light to assist the advertising letters to stand out in sharp contrast to the panels.

A problem with the conventional panel construction lies in the framing structure. The outward extending peripheral flange requires a frame having sides that project outwardly from the sides of the face panel. Thus the face panels are spaced apart in the support housing usually presenting a minimum of ¾ inch gap between adjacent panels. This gap or spacing between panels detracts from the cooperative advertising effect presented by the housed panels.

The present invention obviates the aforementioned spacing disadvantage of conventional transparent sign panels by providing for a panel structure in which the opposite side flanges are parallel to one another and extend rearwardly rather than outwardly of the face. The upper and lower sides of the panel terminate in the conventional flange portions extending outwardly in a plane generally normal to the sides. The side flanges preferably extend rearwardly of the upper and lower flanges at least a one-half inch.

The frame of the improved panel is generally formed of a lightweight metallic material and including upper and lower extruded members having the conventional F-shaped cross-section defining inwardly facing slot in which the upper and lower outwardly extending panel flanges are received. The side members of the frame are formed of a sheet material having a generally U-shaped configuration defining a forward facing slot into which the rearwardly extending sides of the panel are received. Because the side members of the panel frame are parallel to one another and normal to the face of the panel, the panels may be mounted in the support housing such that the panel sides substantially abut one another with a minimal gap between adjacent panels.

The reduced frontal surface of the improved panel side framing members thereby improve the appearance of

changeable signs of this character by eliminating the inter-panel gaps so that the silhouette letters are more sharply set off.

It is therefore an object of the present invention to improve the appearance of changeable panel signboard structures by providing a panel configuration requiring a frame with side members presenting a minimum frontal surface so that the panels may be mounted adjacent one another with a relatively small inter-panel gap.

It is further object of the present invention to simplify the framing requirements of transparent, plastic sign panels by providing a panel of this type having a dished face with upper and lower outwardly extending flange portions and side flanges extending rearwardly of the upper and lower flanges and normally thereto.

Still further objects and advantages of the invention will become apparent upon reference to the following detailed description and accompanying drawings, in which like reference characters refer to like parts throughout the several views and in which:

FIGURE 1 is a perspective view of a changeable signboard housing having panels embodying the present invention;

FIGURE 2 is an enlarged sectional view as seen from line 2—2 of FIGURE 1;

FIGURE 3 is a sectional view as seen from lines 3—3 of FIGURE 1; and

FIGURE 4 is a perspective view of a preferred panel and frame illustrating the invention with parts in section for purposes of clarity.

Now referring to the drawings, FIGURES 1, 2 and 3 illustrate a signboard structure **10** as comprising an elongated housing **12** supporting a plurality of framed panels **14**. The housing **12** may have any suitable attractive configuration, but for purposes of illustration includes an upper horizontal support member **16** having normally and downwardly turned lips **17**, a lower horizontal support member **18** having normally and upwardly turned lips **19** co-planar with lips **17**, and a plurality of regularly spaced, vertical U-shaped channel members **20** joining members **18** and **16** to define a plurality of rectangular openings **21**.

Now referring to FIGURE 3, the panels **14** are formed of a translucent or transparent plastic such as an acrylic resin, and press molded to form an outwardly dished face section **28** having upper and lower inclined portions **30** terminating in outwardly extending flanges **32**. The panels **14** also have parallel sides **34** extending rearwardly of upper and lower flanges **32** preferably a minimum of one-half inch.

A silhouette letter **36** is formed on each of the faces **28** by any well known means, preferably by embossing, a letter on the interior surface of the panel and then spraying acrylic colors on interior surfaces. An alternative and effective method is to form a separate three dimensional letter out of a suitable acrylic plastic, cementing the letter to the outer face of the panel and then routing out the panel behind the letter to permit light penetration. Still another method is to cut out a flat plastic letter which is cemented to the face of the panel.

Referring to FIGURE 4, each panel **14** is provided with a peripheral frame **38** preferably formed of a lightweight material such as aluminum and including an upper member **40** and a lower member **42** joined at their ends by side members **44**. Upper member **40** and lower member **42** have similar F-shaped cross-sections and are formed preferably of an extrusion having a flat side **46** having a normally extending flange **48** formed along the forward edge thereof and a second flange **50** spaced from flange **48** to define an inward facing slot **52**. The upper and lower panel flanges **32** are mounted in the frame slots **52** in a loose fitting relationship to permit vertical expan-

sion and contraction of panel **14** due to variations in the ambient temperature.

The frame side members **44** are joined of a sheet material into a generally U-shaped cross-section and are slipped over the panel sides **34** and joined to the upper and lower frame members on the inner surface of extrusion sides **46** rearwardly of the inner flange **50**. The side members **44** also fit panel sides **34** in a loose fitting relationship to permit space sufficient for thermal expansion and contraction.

The panels **14** are preferably each mounted to the housing **12** by pivotably connecting the under side of the upper frame member **40** to adjacent the upper forward edge of upper support member **16**, by hinge **54**, as can be seen in FIGURE 2. The panel **14** thus can be raised and lowered for purposes of access to the interior of the housing. In the lowered position, the lower panel frame member **42** preferably slips under the lower surface of the lower support member **18** so that the inner flange **50** of the frame abuts the lip **19** of the support member. The panel **14** is then locked in the closed position by a threaded fastener **56** connecting lower frame member **42** to the housing support member **18**.

Referring to FIGURE 3, the panels **14** in the lowered position register their frame side members **44** in the housing channels **20** and are normally spaced so that the sides of adjacent panels abut one another. Thus it can be seen that the improved panel configuration permits each framed panel to be mounted side edge to side edge so that the interpanel spacing required by the frame side members has been reduced to a minimum. By reducing this interpanel framing gap, it has been found that the silhouette letter **36** are more effectively and sharply set off from the panel faces.

It is to be understood that although a support housing having a plurality of panels has been illustrated for purposes of description, a modular unit comprising a single panel housing and the improved panel may alternatively be utilized.

Normally, the panel **14** is formed of a plastic tinted or colored to assist the silhouette letters to more effectively stand out.

Although I have described but one preferred embodiment of my invention, it will be apparent to one skilled in the art to which the invention pertains that various changes and modifications may be made therein without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. In a sign structure, the combination comprising:

(a) a support housing having a rectangular opening;

(b) a plurality of rectangular panels, each having a planar face and a pair of parallel panel sides extending normally to the plane of their faces;

(c) a frame associated with each panel having a pair of parallel frame sides retaining the parallel panel sides of its associated panel, each parallel frame side being formed of an extrusion having a U-shaped cross section defining a slot having a pair of spaced sides, the slot facing in a direction normal to the plane of the face of its associated panel, each slot being engaged with the edge of one of the parallel sides of its panel, the frames being connected with the housing to support the panels in a continuous series over the opening in the housing with their faces in co-planar relationship and the parallel sides of each panel being supported in face-to-face relationship with the parallel sides of its neighboring panels with their frame sides in substantial abutment so that the parallel panel sides are separated by the thickness of the sides of the slots in which the panel sides are retained.

2. A structure as defined in claim **1**, in which each of said panels has an upper flange and a lower flange, each of said flanges being formed in a plane parallel to the face of the panel and having an edge facing away from the panel and wherein said parallel sides extend rearwardly of said flanges.

3. A structure as defined in claim **2**, including indicia imposed on the co-planar faces a face of said panels.

4. A structure as defined in claim **3** wherein the indicia are opaque and imposed on a translucent face of each panel, and including a source of illumination disposed within said housing and adapted to silhouette said indicia.

5. A structure as defined in claim **2**, wherein each of said frames is pivotally connected to said housing.

6. In a sign structure, a support, a unitary panel having a planar face with a pair of parallel sides formed in planes which are normal to the plane of the face and parallel to one another, each of said pair of sides terminating in a free edge facing in a direction parallel to the plane of its sides, a second pair of sides connecting the ends of said first pair of parallel sides to form a four sided perimeter, each of the second pair of sides terminating in a flange formed in a plane which is parallel to the face of the panel, each of said flanges having a free edge facing in a direction parallel to the face of the panel, and means for mounting said panel on said support.

7. The invention as defined in claim **6**, wherein the free edges of the parallel sides of the panel extend rearwardly of the face of the panel beyond the flanges of the second pair of sides.

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U.S. Cl. X.R.

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