Feb. 18, 1958 G. C. JACOBS 2,823,473

DISPLAY SIGNS

Filed Nov. 21, 1956 2 Sheets-Sheet 1

Fig. 1.

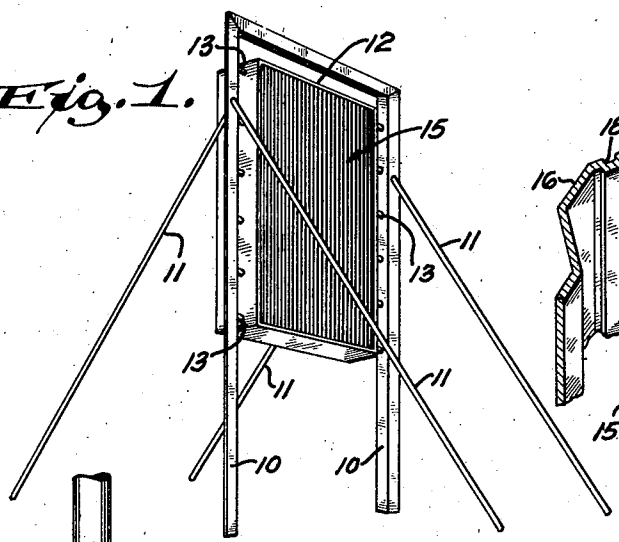



Fig. 4.

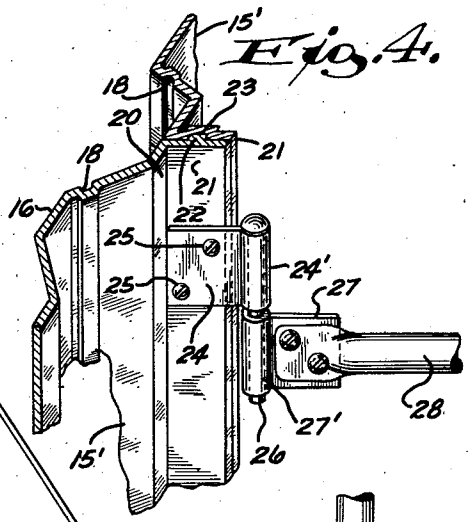



Fig. 3.

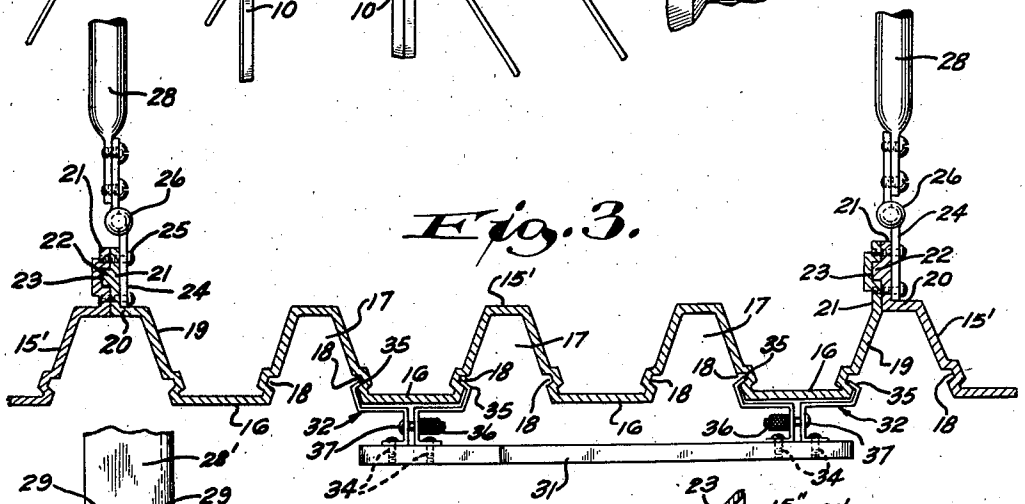



Fig. 6.

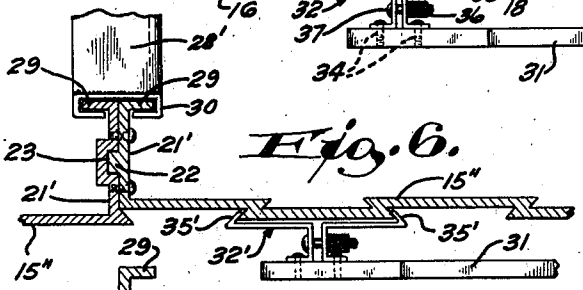



Fig. 8.

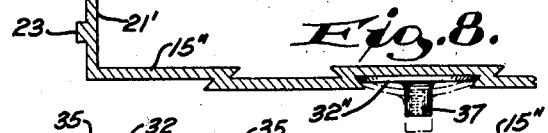



Fig. 7.

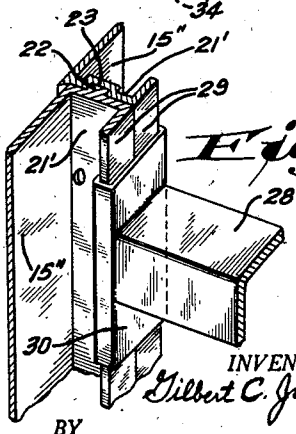



Fig. 5.

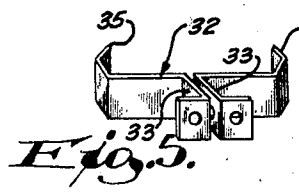
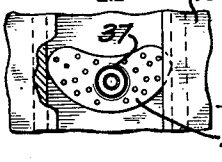



Fig. 9.




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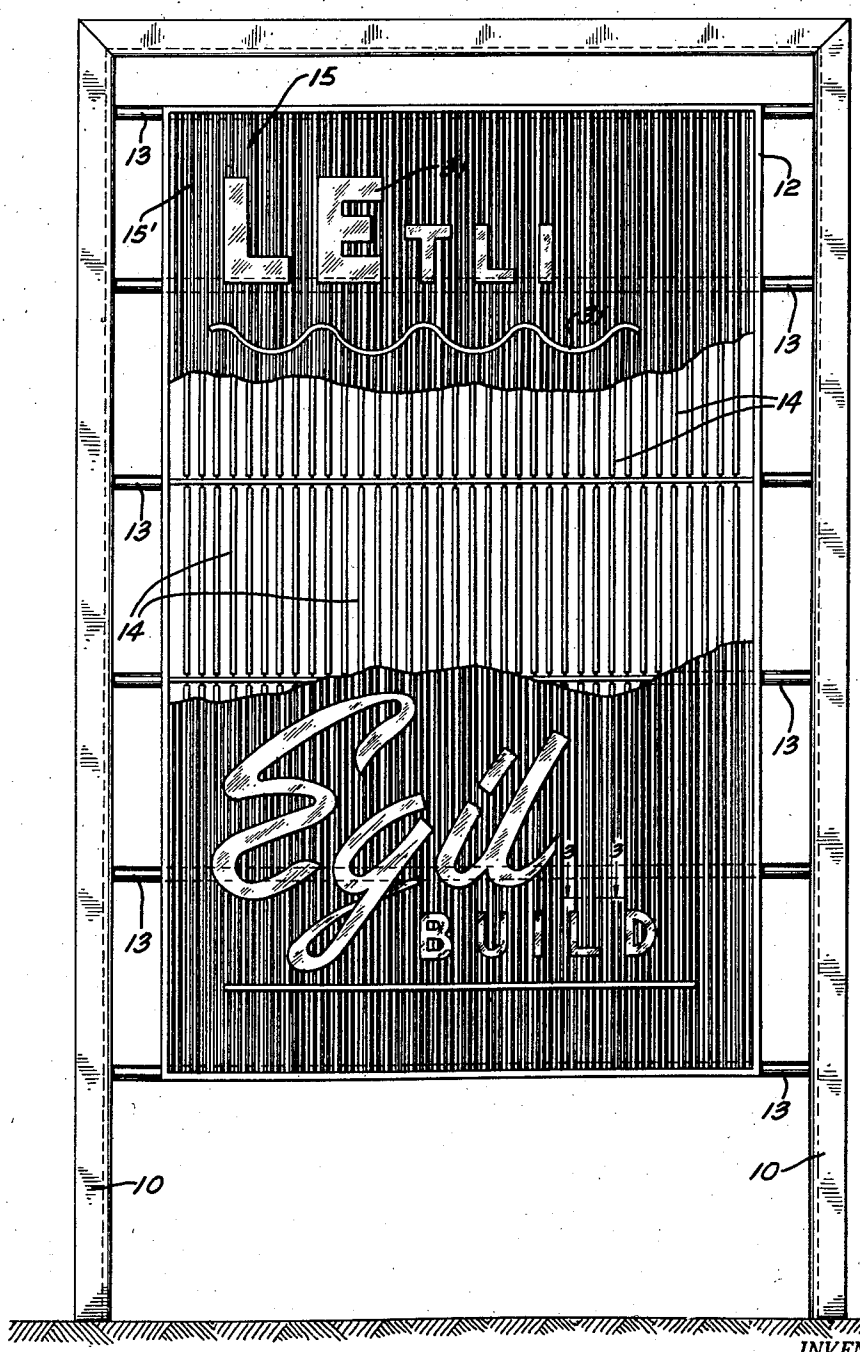



Fig. 2.

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2,823,473

# DISPLAY SIGNS

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Application November 21, 1956, Serial No. 623,568

9 Claims. (Cl. 40—125)

This invention relates to improvements in display signs, and more particularly to an illuminated display sign with plastic sheet facings which is susceptible of being built in mammoth sizes.

Illuminated display signs have heretofore been provided with plastic sheet material facings and such signs have also heretofore utilized corrugated sheet material for the facings, but have been of limited size because the plastic sheet material comes in predetermined limited widths and it is necessary to provide in a sign having a transverse dimension considerably greater than the width of a sheet of plastic facing material, suitable weatherproof joints between the abutting margins of the longitudinal edges of the sheet material, which joints, besides being weatherproof, will not detract from the exterior appearance of the sign, nor interfere with the proper transmission of light through the sign faces.

With the foregoing in mind it is a primary object of the present invention to provide a mammoth illuminated display sign having plastic corrugated sheet material faces in which the strips of facing material of limited width are joined together along their adjacent longitudinal edges by effective non-visible weatherproof joints which do not interfere with the transmission of light through the sign facings.

A further more specific object of the invention is to provide a corrugated sheet material facing for a relatively large display sign wherein the adjacent side margins of the facing strips are secured together by effective weatherproof non-visible joints arranged to also receive at the joints the outer or forward ends of tie rods or hangers used to anchor the large composite facing sheets to the sign framework.

A further more specific object of the invention is to provide in a mammoth illuminated display sign, a light transmitting corrugated plastic sheet material facing with joints between the adjacent marginal edges of the strips which compose the entire facing also receiving and anchoring the outer ends of tie rods or hangers in a manner to prevent light leakage and dirt entrance at the joints so that the outer surface of the sign facing will present an unmarred overall appearance, notwithstanding its large size.

The provision and erection of a mammoth display sign frame involves a very substantial expense and it is impractical to take the sign frame down or dismantle it should it be desired to change or vary the advertising display on the sign face from time to time. It is, therefore, another object of the present invention to provide a mammoth display sign of the type described wherein the advertising indicia or displays on the facing of the sign may be readily removed, changed and repositioned whenever desired with a minimum of effort, and without the necessity of taking down or dismantling the frame structure or any portion of the sign.

A further object of the invention is to provide in a mammoth sign of the character described having corrugated sheet material facings, readily removable and



shiftable letter or display anchoring clips which removably engage ribbed portions of the sign facing whereby the advertising letters or displays may be easily and quickly removed from the erected sign and facing at any time for the mounting of new or different advertising indicia and displays.

A further object of the invention is to provide in an illuminated display sign with corrugated sheet material facings, advertising display indicia mounting clips or fasteners which engage the inner faces of the advertising display letters or indicia so as not to be visible and which removably and adjustably engage the longitudinal ribs in the corrugated faces of the display sign for selective non-visible securement thereon.

A further object of the invention is to provide a mammoth display sign of the character described which permits the ready mounting on its face portions of interchangeable advertising displays, which is weatherproof for outside usage, which is attractive in appearance and presents unmarred display facings, which provides for the non-visible anchorage of the large sheet material facings, which is strong and durable, and which is well adapted for the purposes described.

With the above and other objects in view, the invention consists of the improved display sign, and its parts and combinations as set forth in the claims, and all equivalents thereof.

In the accompanying drawings, in which the same reference characters indicate the same parts in all of the views:

Fig. 1 is a perspective view of an erected display sign embodying the features of the present invention, the advertising or display indicia being omitted from the exposed face of the sign;

Fig. 2 is an enlarged front view of the display sign with a portion of the outer facing broken away and showing advertising indicia on the facing;

Fig. 3 is an enlarged fragmentary horizontal sectional view taken on line 3—3 of Fig. 2;

Fig. 4 is an enlarged fragmentary detail perspective view of the interior portion of the jointed margins of two adjacent facing strips showing the attachment thereto of the outer end portion of a hinged hanger for attaching the sheet material facing to the sign frame;

Fig. 5 is an enlarged perspective view of the type of letter or display indicia mounting clip shown in Fig. 3;

Fig. 6 is an enlarged fragmentary horizontal sectional view through the jointed portion of a pair of sheet material facing strips of slightly modified form with an advertising letter mounted on one of the ribs;

Fig. 7 is an enlarged fragmentary perspective view of the inner portion of the facing of Fig. 6 at the joint between a pair of adjacent facing strips showing the frame anchor carried thereby;

Fig. 8 is an enlarged fragmentary sectional view through a portion of a facing strip of the type shown in Fig. 6 only showing a modified type of letter or indicia mounting device; and

Fig. 9 is a fragmentary front view of a portion of the facing strip material shown in Fig. 8 showing in front elevation a letter mounting device.

The improved mammoth illuminated display sign is shown in detail in Figs. 1 and 2, and it is preferably intended for outdoor display and may be set up from the ground or otherwise erected in an elevated position. The display faces of the sign may reach such relatively large proportions as, for instance, forty feet in height or the longest dimension, and twenty-five feet in width or the transverse dimension. While the sign may take any desired shape, it is illustrated as being of rectangular form with the longest dimension of the frame for the display faces being vertical. Where the gigantic display sign is

to be erected from the ground, suitable spaced apart upright supporting posts **10** are provided which may, if necessary, be braced by diagonally extending suitably anchored cables or supports **11**. Between portions of the uprights there is the display sign proper which includes an open box section rectangular frame **12** carrying spaced apart transverse supporting pipes or bars **13** whose opposite end portions are anchored in the uprights **10**. Within the frame are a plurality of suitably mounted illuminating tubes **14**. The sign may be either of the single face or double face type. In the latter case each face of the box-like open frame **12** is covered by a facing generally indicated by the numeral **15** and which forms the particular subject matter of the present invention. Each facing is a composite translucent or transparent sheet of corrugated plastic material wherein the corrugations run lengthwise of the sign frame or co-extensive with its longest dimension.

In view of the small scale of the drawings the vertical corrugations in the facing strips **15'** could only be schematically indicated in Fig. 1 and in the major portion of Fig. 2. In the latter view in the upper left-hand corner the ribs and recesses of the corrugations are shown in a fragment of the facing, but it should be understood that in a complete facing these ribs and recesses cover the entire facing.

Corrugated plastic material of the type suitable for a sign facing is available in strips of very limited width (in practice, about twelve inches), but these strips of plastic material are available in unbroken lengths adequate for the longest dimension of the sign frame. Obviously with a sign frame of twenty-five feet in width, for instance, to provide a complete facing the corrugated plastic strips which extend lengthwise of the frame must have their adjacent longitudinal edges secured together. The present invention provides means for accomplishing this end so that any number of strips may be secured together to provide an integral composite frame facing which is weather proof and in which the joints are not visible exteriorly of the sign and which do not detract from the display face of the sign.

Referring now more particularly to Fig. 3 there is illustrated in large form a transverse sectional view through a strip of facing material **15'** having its opposite longitudinal edges secured to the in-turned tongue portions of the next adjacent facing strips **15'**, said view being taken approximately along the line **3—3** of Fig. 2 on a larger scale. As shown, the strip of plastic facing material **15'** is formed with alternating forwardly projecting ribs **16** of frusto-conical formation and inwardly extending recesses **17** of similar formation. The diagonally extending legs between the ribbed and groove portions are formed with recesses **18** for the purpose hereinafter to be explained. The longitudinal marginal portions of each facing strip **15'** have inwardly directed diagonal legs **19** which are bent laterally as at **20** in alignment with the inner ends of the recesses **17** and are then provided with rearwardly directed right angular tongue portions **21**. The tongue portion **21** on one margin of a strip **15** may have a laterally projecting squared shoulder **22**, while the tongue portion **21** on the other margin of a strip **15'** is provided with a squared recess **23**. Thus when the facing strip **15'** of a composite frame face is interposed between and connected to the longitudinal margins of a pair of adjoining facing strips **15'** the tongue portions **21** of the interposed strip will abut the tongue portions **21** of the adjoining strips with the shoulders **22** entering the adjacent tongue recesses **23**. Adjacent the overlying tongues **21** at each joint there is the forwardly projecting pintle plate **24** (see Fig. 4) of a hinge structure and the pintle plate is secured to the overlying tongues **21** by pins or screws **25** which also extend through the overlapping adjacent tongues **21** and connect the same together in a firm manner so as to make the joint weatherproof and invisible from the outer face of the sign. The rearwardly projecting tubular portion **24'** of the pintle plate **24** carries a pintle **26** which also extends revolubly through the tubular portion **27'** of another pintle plate **27** to which is anchored the forward end of a horizontal inwardly directed facing anchor bar **28** which extends from and is secured to any of the interior frame members of the sign structure, as the members **13**, whereby the composite facing through the anchor bars **28** secured at the longitudinal joints between adjacent facing strips **15**, securely mounts the composite facing sheet on the sign framework.

The plastic sheet material which comprises the sign facing **15** may, due to weather, expand or contract in its longitudinal direction, and due to the fact that the vertically aligned portions **24'** and **27'** of each hinge structure are slidably mounted on a pintle **26** there can be longitudinal movement of said pintle plate portions on the pintle to permit relative longitudinal movement between the marginal portions of connected facing strips **15'** and the shoulder and recess joints **22** and **23** between the adjacent tongues **21** of the strips also permit this relative sliding movement.

It will thus be seen from Figs. 3 and 4 that any number of elongated facing strips **15'** may have their adjacent longitudinal edges connected together by the form of joint illustrated and described to effect a mammoth sized sign facing of any desired width. The joints do not in any manner mar the external appearance of the composite facing, but effect very excellent weatherproof joints which may move in the longitudinal direction and which also provide anchorage for the facing mounting rods or bars **28**.

A slightly modified form of facing strip **15''** is shown in Figs. 6, 7, 8 and 9 wherein the alternating ribs and recesses do not have the depth of the ribs and recesses of the form of facing strip **15'** shown in Figs. 3 and 4. Also, the legs at the extremities of the ribs and recesses are obliquely directed and form acute angles with the shoulders of the ribs and recesses. Each facing strip **15''** of the modified form has its side longitudinal edges formed with rearwardly turned right angular flanges **21'** whose inner extremities are bent laterally right angularly to provide heads **29**. Thus it will be seen that at the joint between the side margins of a pair of adjacent facing strips **15''** the flanges **21'** contact one another and the heads **29** co-operate to form with the flanges **21'** a T which is vertically slidably engaged by an enclosing sleeve **30** which has secured thereto the forward end of a horizontal inwardly directed angle iron anchor bar **28'**. The inner end of the latter may be connected to any of the framework members within the sign frame **12**, whereby the composite facing is anchored to the interior framework of the sign. The sleeve **30** may slide longitudinally on the head of the T formed by the adjacent portions **29** and the complementary shoulder and recess portions **22** and **23** with which the abutting flanges **21'** are formed permit relative longitudinal movement as between adjacent facing strips **15'** and the facing strip flanges to compensate for contraction and expansion.

Referring again to the principal form of facing strip **15'** shown in Figs. 3 and 4, the forwardly projecting ribs **16** of the corrugations provide convenient means for the adjustable mounting on the facing of display letters **31** or advertising indicia or designs. These advertising letters, indicia or display designs may take any desired form and be of any size and may be mounted on any desired outer surface of the composite sign facing **15** as is shown most clearly in Fig. 2. For the purpose of anchoring the letters or display designs **31** to the sign face **15**, clips are utilized, and the preferred form of clip for use with the type of corrugated facing **15'** shown in Figs. 3 and 4 is illustrated in detail in Fig. 5 and is designated by the numeral **32**. A clip **32** actually comprises a pair of complementary reversely directed angularly shaped elements having angled head portions **33** which underlie a rear surface portion of an advertising character **31** and are

secured thereto by screws 34 or other suitable securing means. The pair of elements comprising a clip 32 provides an inner embracing portion co-extensive with the breadth of a facing strip rib 16 and overlying the same as best shown in Fig. 3. The opposite extremities of said rib embracing portion have in-turned flanges 35 which extend into the recesses 18 in the diagonal leg portions of the facing strip corrugations. The clips 32 can be somewhat resilient so that the engagement of the flanges 35 within the recesses 18 may be secure and a clamping effect is obtained by the tightening of a nut 36 on a bolt 37 which connects portions of the clip elements together. The clips may be mounted on display letters or design characters 31 at desired intervals along the length of the same but should be secured to the advertising characters 31 so as to coincide with spaced-apart facing strip ribs 16 which are to be engaged thereby. Obviously the engagement of the character-carried clips with spaced ribs on the facing strips permits positioning of the advertising display characters 31 on any desired portion of the composite facing and permits the advertising characters 31 to be adjusted vertically on the facing strip ribs 16. It will also be evident that by releasing the nuts 36 the clips 32 may be completely disengaged from the facing strip ribs. Thus the facing of the sign may be easily supplied with interchangeable advertising characters 31 or displays from time to time to vary the character of the sign. This is accomplished without taking down the sign or dismantling it in any manner. The clips are easily removable from the advertising characters 31 and may be secured to any other sets of characters 31 which are to replace those initially mounted on the sign facing.

In Fig. 6 there is disclosed a modified form of advertising character clip 32' which merely differs from the clip of Fig. 5 in that it is shaped to exactly conform with the shape of the rib of the modified strip 15''. The in-turned end flanges 35' of said modified type of clip engage the oblique end walls of a rib within the acute angles between the ribs and the recesses of the corrugations.

Figs. 8 and 9 illustrate a second form of modified advertising character mounting clip 32''. This clip 32'' is preferably kidney-shaped and slightly longer than the distance between the side margins of the recess of a facing strip 15''. The clip 32' is also formed of plastic or other slightly yielding material and is pressed or wedged into the recess of a facing strip 15' and is frictionally retained therein. Projecting forwardly centrally from the body of the clip 32' is a hollow stem 37 which is internally threaded in order that a suction cup (not shown) may be attached thereto which engages the inner face of the advertising character 31, or a screw or other attaching means may connect the advertising character to the stem 37.

From the foregoing description it will be apparent that pursuant to the present invention a mammoth illuminated display sign may be provided having light permeable display faces of corrugated sheet material of any desired size which are assembled from strips joined together along their longitudinal margins by very effective joints. These joints efficiently seal the interior of the display sign frame against the entrance of rain and snow and prevent leakage. The joints are furthermore so effected within the channeled portions of the corrugated facing strips that they do not in any manner affect or mar the exterior surface appearance of the composite facing and furthermore provide nonvisible means for the anchorage of the outer ends of bars or rods which secure the large facing to the sign frame structure. The joints and anchorage securement permit movement of the facing strips to compensate for expansion and contraction.

The mammoth sign with its novel face construction is arranged to quickly and easily receive advertising displays, lettering and other types of display characters or designs which may be interchangeably mounted on the sign facing in any desired position and arrangement, and the manner in which the letters or advertising characters are mounted permit proper adjustment or positioning of the same on the facing without removing the facing or in any manner dismantling the sign. Simple means are provided for adjustably mounting the advertising characters on the corrugated portions of the outer face of the sign facing and whenever it is desired to change the display on the sign facing, this is easily and quickly accomplished. The improved display sign is of simple and novel construction, is extremely practical and efficient in use, and is well adapted for the purposes described.

What is claimed as the invention is:

1. In a display sign having a frame, a composite, light permeable facing covering a face of the frame and formed of a plurality of side-by-side strips of sheet material having longitudinally extending undulations, the longitudinal margins of adjacent strips being formed with inturned lapped flanges provided with complementary joints therein, means securing the joints together in a manner to provide slight relative longitudinal movement, display characters adjacent the outer surface of the facing, and means for mounting the characters on the undulations of the facing strips.

2. In a display sign having a frame, a composite, light permeable facing covering a face of the frame and formed of a plurality of side-by-side strips of sheet material having longitudinally extending undulations, the longitudinal margins of adjacent strips being formed with inturned lapped flanges provided with complementary joints therein, anchor bars securing the joints together and attachable to frame elements for securing the facing on the frame, display characters adjacent the outer surface of the facing, and means for adjustably mounting the characters on the undulations of the facing strips.

3. In a display sign having a frame, a composite, light permeable facing covering a face of the frame and formed of a plurality of side-by-side strips of sheet material having longitudinally extending undulations, the longitudinal margins of adjacent strips being formed with inturned lapped flanges provided with complementary joints therein, means on the inner side of the facing for securing the joints together, display characters adjacent the outer surface of the facing, and means carried by the display characters for adjustably and removably mounting the latter on the undulations of the facing strips.

4. In a display sign having an open frame, a composite, light permeable facing covering a side of the frame and formed of a plurality of side-by-side elongated strips of sheet material extending lengthwise of the frame and having longitudinally extending undulations therein, the longitudinal margins of adjacent strips being formed with inturned lapped flanges provided with complementary shiftable joints therein, facing anchors having their inner ends engaging the joints adjacent the inner surface of the facing, display characters for the outer surface of the facing, and means interposed between the characters and selected undulations of the facing for adjustably and removably mounting the characters on the outer surface of the facing.

5. In a display sign having a relatively large rectangular frame with internal brace bars, a composite, light permeable facing covering a face of the frame and formed of a plurality of elongated side-by-side strips of corrugated sheet material with the corrugations running lengthwise of the strips, the longitudinal margins of adjacent strips being formed with in-turned lapped flanges, anchor members projecting inwardly from the strip flanges for securement to the internal brace bars of the frame, the forward ends of the anchor members being shiftably secured to the lapped portions of the strips, and means for readily removably and shiftably mounting interchangeable display characters on the outer surface of the facing.

6. In a display sign having a frame, a composite, light permeable facing covering a face of the frame and formed of a plurality of side-by-side strips of corrugated sheet material, the longitudinal margins of adjacent strips being formed with in-turned lapped flanges provided with

complementary joints therein, selected display characters for the outer surface of the facing, and means for adjustably and removably mounting the characters on portions of the ribs of the corrugations of the facing strips.

7. In combination, an open rectangular frame for an illuminatable display sign, a composite, light permeable facing covering a side of the frame and formed of a plurality of side-by-side, elongated strips of corrugated sheet material extending lengthwise of the frame with the corrugations extending length-wise of the strips, the longitudinal margins of adjacent strips being formed with inturned lapped flanges, anchor members longitudinally shiftably secured at their forward ends to said flanges inwardly of the front surface of the facing and projecting into the frame perpendicularly to the plane of the facing, display character mounting clips adjustably and removably engaging selected portions of selected corrugations of the facing strips, and display characters carried by said clips.

8. An illuminatable display, comprising a relatively large rectangular, open frame with internal brace bars, a composite, light permeable facing covering a side of the frame and formed of a plurality of elongated side-by-side strips of corrugated sheet material with the corrugations running lengthwise of the strips, the longitudinal margins of adjacent strips being formed with inturned lapped flanges having complementary joints, anchor members securing portions of the strip flanges together and projecting inwardly therefrom for securement to the internal brace bars of the frame, the forward ends of the anchor members being shiftably secured to the lapped portions of the strips, display character mounting clips adjustably and removably engaging exterior portions of certain ribs of the strip corrugations, and display characters detachably carried by said clips in superimposed relation to outer surface portions of the composite facing.

9. The combination with the display face of an illuminatable advertising sign wherein the display face is of corrugated sheet material with the corrugations having outwardly projecting shouldered ribs, of clips removably clamped on said ribs in engagement with the shoulders thereof, said clips having outwardly projecting stem portions, and advertising display characters carried by said clips.

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