July 10, 1951

H. G. BUCK

2,559,756

PREFORMED SIGN UNIT

Filed Jan. 15, 1948

Fig. 1.

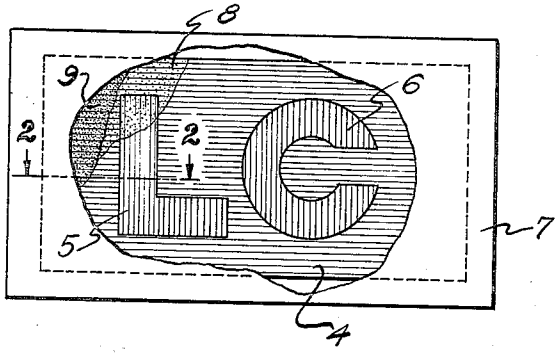


Fig. 2.

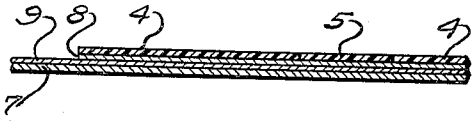
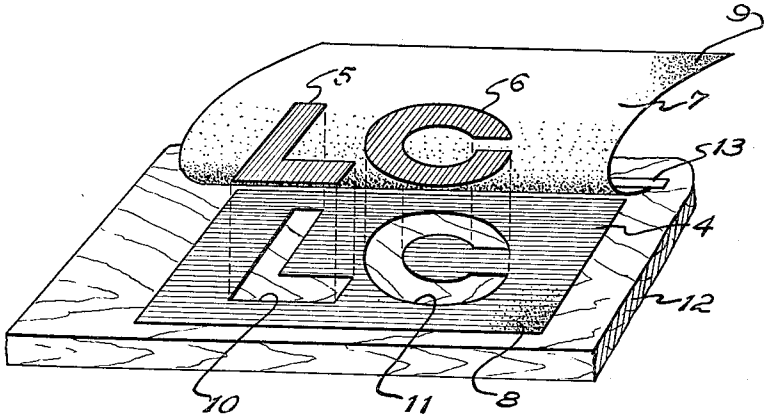


Fig. 3.



Inventor

HOMER G. BUCK

By R. S. Berry

Attorney

Patented July 10, 1951

2,559,756

UNITED STATES PATENT OFFICE

2,559,756

PREFORMED SIGN UNIT

Homer G. Buck, Los Angeles, Calif., assignor to By-Buk Company, a copartnership consisting of Homer G. Buck and Ollie U. Chambers

Application January 15, 1948, Serial No. 2,537

3 Claims. (Cl. 154—46.8)

1

This invention relates to display signs and a method of producing the same from comparatively thin or film-like sheets or strips of material which is highly flexible, for example the present popular reflective sign material in which a multiplicity of minute glass beads are embedded to make the material reflective and glow as though illuminated from within or behind when a beam of light is directed thereon.

In making display signs of or which include separate letters or design pieces cut or otherwise produced from sheets of the aforesaid thin and flexible reflective material, much difficulty is experienced in the setting and arranging of the separate letters and design portions of such material in properly aligned and squared relation to one another. The separate pieces of the material which are to be assembled in a predetermined pattern must be applied to the surface on which the sign is to be made by means of a liquid cement or adhesive substance which is not soluble in water and will positively and permanently hold the separate pieces in place. Due to the inherent thinness and high degree of flexibility of the separate pieces of such sign material and the increased limpness and flexibility caused by the adhesive thereon, the handling and individual application thereof with accuracy is difficult if not impossible in some cases. Moreover the fact that the pieces will stick as soon as the adhesive thereon contacts the surface on which the sign is to be made and cannot then be shifted without likelihood of being torn, wrinkled or mutilated makes it apparent that accurate assembly of the sign pieces in a given pattern is a tedious and difficult operation.

One of the objects of the present invention is to provide a novel prefabricated set or make-up for a display sign of the aforesaid reflective material, with the sign characters and parts properly assembled and related and ready for an easy and properly located application to any base or sign displaying surface.

Another object is to provide a novel and efficacious method of making preformed sign units of the aforesaid highly flexible material, which method provides for an appreciable saving in time, material and labor and assures the formation of a finished and permanent display sign unit having all parts properly aligned and positioned.

A further object is to provide a preformed sign of the character described in which the preformed separate characters and parts of thin and flexible display material making up the sign are held by a water soluble adhesive in properly assembled

2

relation on a treated paper sheet so that such sheet makes it possible to quickly, easily and accurately apply the sign characters to a base and said sheet may be readily removed after the made-up sign characters are adhered to the sign base, by wetting the paper sheet sufficiently to dissolve the adhesive which adheres the paper sheet to the sign characters.

I am aware of the fact that decalcomanias provide for the transfer of designs and characters painted or printed thereon, to surfaces for supporting and displaying such characters and that small tile pieces are held in given patterns on paper sheets by means of an adhesive with provision for removing the paper sheets in a manner similar to removal of decalcomania paper. However, in the case of decalcomanias the sign or display characters thereon are not preformed elements or parts and in the case of the tile pieces each piece is rigid and inherently form-retaining and can be readily handled and applied with little or no difficulty. With my improved made-up sign the letters, characters and pieces which make up the sign or display are preformed as complete physical elements, but are inherently limp and flexible so that they are not of themselves form retaining and cannot be handled individually without flopping over and changing position and form. The advantage however in using this thin and limp material for signs lies in its reflective qualities, its light weight, its adaptability to being cut and shaped as desired with ease and the fact that it is produced in various colors.

Other reflective materials, including glass and metal cannot be readily cut to desired patterns or obtained in various colors nor as expeditiously and inexpensively used to produce signs and displays and manifestly will not give the effect of self-illumination in the attractive and advantageous manner which is characteristic of the particular beaded and reflective material used in carrying out the present invention. Consequently the present invention lies in the provision of a preformed display sign unit made with the aforesaid thin and highly flexible reflective material in the form herewith disclosed and in the method of making the same, in that the objections and difficulties heretofore encountered in the use of such sign material are entirely eliminated by my invention and the resultant signs are improved as to accuracy, neatness and overall appearance and can be made up with greater dispatch and at a saving in time, labor, material and cost and can be applied much more

readily and accurately to bases or other sign display surfaces.

With the foregoing objects in view, together with such other objects and advantages as may subsequently appear, the invention resides in the parts and in the combination, construction and arrangement of parts hereinafter described and claimed, and illustrated by way of example in the accompanying drawing, in which:

Fig. 1 is a fragmentary top plan view of a made-up sign unit constructed in accordance with this invention,

Fig. 2 is an enlarged sectional view taken on the line 2—2 of Fig. 1, and

Fig. 3 is a schematic perspective view showing the manner of assembling the sign unit shown in Figs. 1 and 2.

Referring to the drawings more specifically it will be apparent that a sign unit embodying the present invention will include the particular reflective sign material herein described, here shown in three separate pieces designated 4, 5 and 6 and a paper sheet carrier or body portion 7 to which the reflective surfaces of the sign pieces 4, 5 and 6 are adhered in this embodiment by means of two coatings of a water soluble glue or like adhesive designated 8 and 9. The adhesive coating 8 is applied to the display faces of the pieces of sign material whereas the coating 9 is applied to the paper sheet 7 and the method of making up the sign until will be hereinafter fully described.

At this point it should be noted that the sign material is cut in this instance to represent a background piece and the letters L and C, the color lines being used in the drawings to distinguish the separate pieces and to indicate the use of colors as desired. It should here be noted that this sign material in various colors is available on the market in sheets and is extremely thin and flexible but provided with marked reflecting qualities by reason of having embodied therein a reflecting surface on which are held by a transparent shellac, lacquer or other adhesive coating a multiplicity of minute glass beads which cause the exposed sides of the material to glow as though illuminated from within or behind when a beam of light is directed thereon, especially at night. Due to the thinness of this material and the minuscule proportions of the beads no attempt has been made to show the construction of the material itself in the drawing hereof. As shown in Fig. 3 the letter portions or characters which are the pieces 5 and 6 are set in openings 10 and 11 formed in background piece 4 and shaped to correspond to the letters, thus making the parts of the sign flush with one another.

The paper sheet 7 is preferably made of the same or similar absorbtive material as used in the production of decalcomanias and when soaked will cause the water soluble coatings 8 and 9 to dissolve and release the paper from the sign elements 4, 5 and 6, thereby providing for removal of the paper from the sign element as will be hereinafter fully described.

In the making of the sign unit hereof the sign material is first coated on its beaded face with the water soluble adhesive 8. This coating may be applied to a sheet of such material before the sign elements are cut therefrom or after such elements are cut and in either case the adhesive is allowed to dry before the next step in the production of the unit is carried out.

After the sign pieces 4, 5 and 6 are assembled

in proper order on the assembly board or support 12, the dried coating 8 of water soluble adhesive thereon is moistened, preferably by spraying a light application of steam thereon, the purpose being to moisten the dry adhesive coating just sufficiently to make it effective as an adhesive without the presence of moisture which is in excess of that amount required to render the adhesive uniformly sticky throughout.

The decalcomania paper sheet 7 of appropriate size is next applied to the moistened adhesive surfaces of the sign pieces. As shown in Fig. 3, the paper sheet 7 is held on the board in proper registry with the sign pieces by means of a strip of adhesive tape 13 applied as a hinge along one margin thereof or by any other suitable means and said sheet is evenly applied so that the dry adhesive coating thereon will properly contact the moistened adhesive on the sign pieces. The paper sheet is now pressed or ironed smooth with a roller or other suitable tool (not shown) to expel any air bubbles and assure an even adherence of the sign elements to the paper sheet 7.

After the assembled unit has been allowed to dry thoroughly it may be applied to a sign base or surface (not shown) on which the sign is to be displayed by placing the unit in the desired position thereon and then temporarily holding it in place by means of any suitable sticky or adhesive tape applied along a margin of the paper sheet 7. The unit may now be swung out away from the sign base, the tape acting as a hinge, whereby a non-water-soluble adhesive or cement (not shown) for permanently holding the sign elements 4, 5 and 6 of reflective material on the base may be applied to said sign elements only. After the adhesive is applied, the unit is swung back against the base thereby cementing the elements 4, 5 and 6 in place. The cement or adhesive is allowed to partially dry and thereafter the unit is pressed with a roller or the like (not shown) to expel air bubbles and smooth out the unit following which the paper sheet 7 is soaked with water to dissolve the water soluble adhesive coatings 8 and 9 sufficiently to effect the removal of the paper in substantially the same manner as in the removing of the paper in applying decalcomanias. After the paper sheet is removed the sign pieces 4, 5 and 6 are washed thoroughly to remove all of the water soluble adhesive therefrom and are then pressed smooth with a roller or other tool (not shown) to assure complete adherence to the sign supporting surface. After being allowed to dry for about twenty-four hours the sign becomes permanently affixed to the base and will resist removal as though an integral part of the supporting surface on which it is displayed.

It should be noted that the use of the water soluble coating 9 on the paper sheet 7 is necessary to prevent the paper itself from becoming smeared with the non-water-soluble cement or adhesive when the latter is being applied to cement the sign to the surface on which it is displayed, as otherwise the paper sheet 7 would adhere to the sign support or display surface on which the sign is adhered.

It will now be apparent that I have provided a most advantageous method of employing thin flexible reflective sign material of the character described in the production of reflective signs and have produced a novel and advantageous reflective sign unit for easy and accurate application to sign bases or sign displaying surfaces.

While I have shown and described a specific

embodiment of my invention I do not limit myself to the exact details of construction set forth, and the invention embraces such changes, modifications and equivalents of the parts and their formation and arrangement as come within the purview of the appended claims.

I claim:

1. A preformed sign unit comprising a thin sheet back-ground piece formed with openings the margins of which define sign elements, sheet contrasting sign element inserts set in said openings and extending flush with the back-ground piece, forming a sign unit assemblage, and an absorptive supporting sheet adhered by a water soluble adhesive to the frontal faces of said back-ground piece and insert assemblage in superficial contact therewith.

2. The structure called for in claim 1 in which a margin of the supporting sheet projects beyond an adjacent margin of the back-ground piece, and water soluble dry adhesive on the back face of the projecting portion of said margin for adhering said margin to a surface adjacent that to which the sign unit is to be applied.

3. The structure called for in claim 1 in which a margin of the supporting sheet projects beyond an adjacent margin of the back-ground piece, and water soluble dry adhesive on the back face of the projecting portion of said margin for adhering said margin to a surface adjacent that to which the sign unit is to be applied, the back face of said back piece and insert assemblage being exposed for the reception of a cement for adhering said assemblage to a surface to which it is to be applied.

HOMER G. BUCK.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,396,409	De Rooij	Nov. 8, 1921
1,932,658	Goodfriend	Oct. 31, 1933
2,020,717	Ansell	Nov. 12, 1935
2,375,177	Reese	May 1, 1945
2,394,701	Laws	Feb. 12, 1946
2,403,752	Phillippi	July 9, 1946
2,422,256	Phillippi	June 17, 1947
2,426,462	Marksberry	Aug. 26, 1947