Feb. 19, 1946. B. SCHLANGER 2,395,197

CHANGEABLE LETTER SIGN

Filed Jan. 10, 1944 2 Sheets-Sheet 1

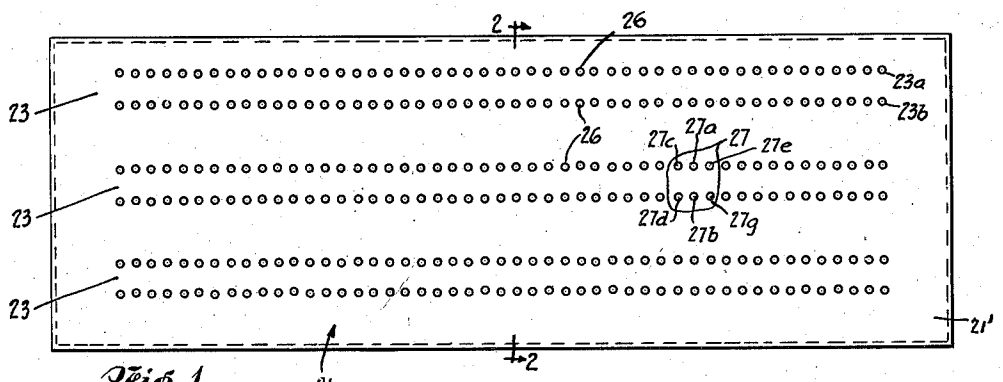


Fig. 1.

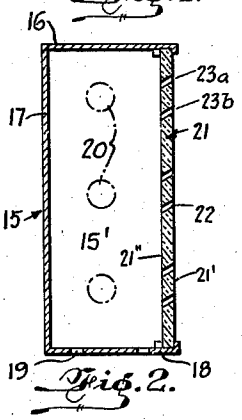


Fig. 2.

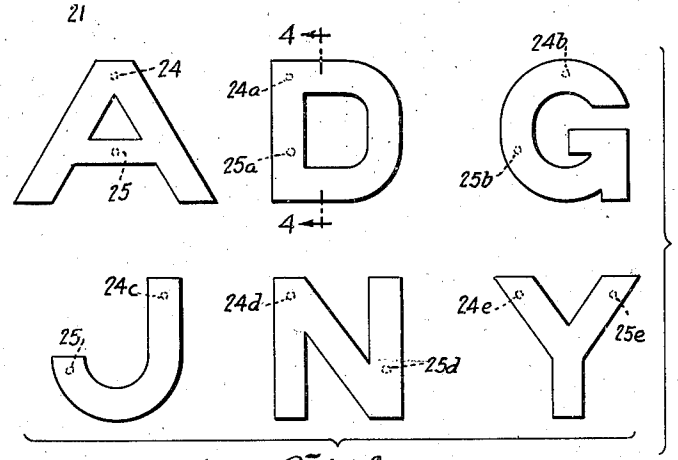


Fig. 3.

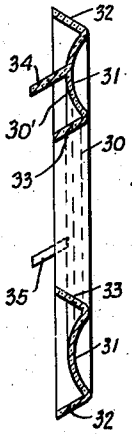
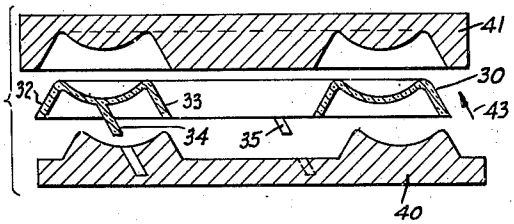


Fig. 4.

Fig. 6.



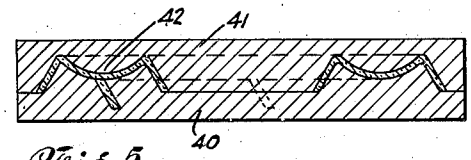


Fig. 5.

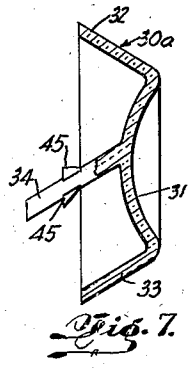


Fig. 7.

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CHANGEABLE LETTER SIGN

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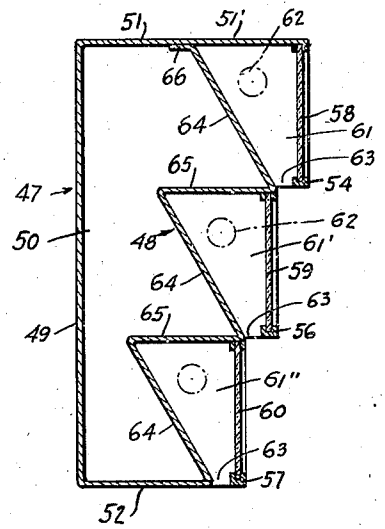


Fig. 9.

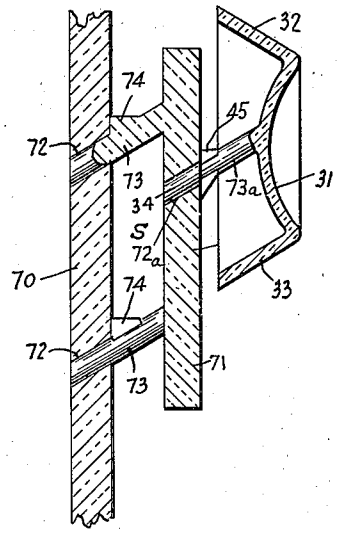


Fig. 8.

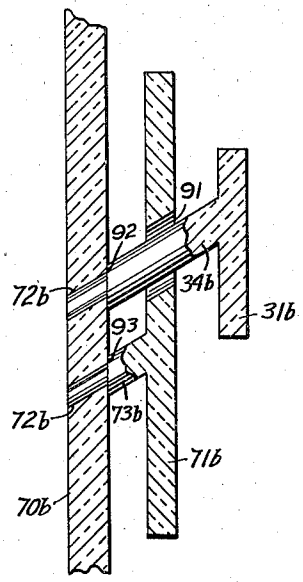


Fig. 10.

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UNITED STATES PATENT OFFICE

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CHANGEABLE LETTER SIGN

Benjamin Schlanger, New York, N. Y.

Application January 10, 1944, Serial No. 517,645

4 Claims. (Cl. 40—143)

This invention relates generally to improvements in signs with changeable characters which can be arranged in various combinations for producing the sign, and more particularly to the type provided with illumination.

It is an object of the present invention to provide a sign having changeable letters or other characters, wherein the connections between the characters and the panel plate upon which the characters are removably mounted, are substantially invisible.

Another object of the present invention is to provide a changeable sign having substantially invisible means for connecting the characters in position on the panel.

It is a further object of the present invention to provide in a sign, a translucent background and translucent changeable characters having translucent supporting means; in which the panel has a plurality of angular or slanting bores or holes and the supporting means comprise slanting or angularly disposed pins or pegs at the rear of the character adapted to fit within the bores, the bores and pegs slanting downwardly from the panel and characters, respectively, the slanting holes being arranged according to a definite or predetermined order whereby the changeable characters may be removably attached to the panel plate in any desired sequence or order.

Yet another object of the present invention is to so coordinate the said holes in the panel plate and the aforementioned pegs of the changeable characters, that the said characters may be fastened to the panel in an orderly and pleasing fashion as regards the relative spacing of the characters.

On account of the various shapes of characters employed in sign displays, such as photographs, art work, letters, numerals, etc., it will be found in certain cases, impractical to locate the pegs at the same points on the characters.

This invention provides for arrangement or location of the pegs on the characters such that the pegs will always find a supporting hole in the panel plate.

A still further object of the present invention resides in the provision of translucent letters or other characters with integral downwardly projecting pegs or pins having fins or stops to limit the extent of entry of the pegs in the holes of the panel plate on which the characters are to be mounted whereby to provide a space between the face of the panel plate and the characters to allow foreign matter, such as, rain, hail, ice to pass through the said space and not to accumulate thereon; the provision of such space also increasing the lighting effect of the sign when illuminated. The holes in the panel being made slanting, any water, such as rain, caught in the unused holes will fall therethrough.

It is a still further object of the present invention to provide a transluscent sign or display effect wherein one or more intermediate backgrounds or planes may be removably mounted between the base background and other character unit or display with the said intermediate backgrounds or plane having perforations adapted to receive the pins or pegs of the succeeding backgrounds, characters or display effects, whereby a diversity of backgrounds or arrangements and/or character unit in different planes and colors may be achieved, the backgrounds and character unit or display effects being, if desired, illuminated by the illuminating means located behind the base background or panel.

Yet another object of the present invention is to provide a transluscent sign or display effect with changeable intermediate planes or backgrounds and character units, each plane or background having projections or pegs on their rear faces of varying lengths to permit the placement of these backgrounds and character units at varying distances from the base background. The intermediate planes or backgrounds having perforations to permit the passing of the pegs through the intermediate backgrounds for engagement with the perforation in the base or other preceding background.

Another object of the present invention is to provide an illuminated sign made of such material and design as practically to be devoid of shadow-casting, except where desired. For example, heretofore, it has been the practice of using opaque supports, rails or tracks as a connection between the changeable characters and the panel on which the characters are mounted. By making a sign in accordance with the present invention, such opaque means are eliminated and the panel and the characters give the appearance of being an integral unit, one blending into the other without interruption as by lines of demarcation, shadows, heaviness of material in certain spots, etc.

Yet another object of the present invention is to provide a character particularly adapted for a changeable sign and of such design as to prevent foreign matter settling on the surfaces thereof.

These and other objects and advantageous features of the invention and their attainment will

be more apparent from the following detailed description, taken in connection with the accompanying drawings, illustrating certain embodiments of which the invention may be realized, and in which:

Fig. 1 is a diagrammatic elevational view of a panel plate employed in a changeable letter sign incorporating certain features of the invention;

Fig. 2 is a vertical cross-sectional view taken through line 2—2 of Fig. 1;

Fig. 3 is a view illustrating a plurality of characters having typical arrangements of supporting pegs;

Fig. 4 is a sectional view taken along line 4—4 of one of the characters shown in Fig. 3;

Fig. 5 is a cross-sectional view taken through a mold for producing the said characters;

Fig. 6 is an exploded view of the mold shown in Fig. 5;

Fig. 7 is an enlarged sectional view of a portion of the character shown in a modified form;

Fig. 8 is a partial sectional view showing an intermediate background and portion of a character in a modified form, removably attached to a panel;

Fig. 9 is a transverse sectional view of a sign embodying certain features of the invention in a modified form.

Fig. 10 is a partial sectional view showing a sign having incorporated therein the invention in a still further modified form.

Referring now more particularly to the drawings, there are disclosed signs of the type wherein individual letters or characters may be arranged in various combinations for producing the sign.

From the following description it will become evident that the invention is applicable to illuminated signs having a luminous or translucent panel forming the background for removably mounting character units which also may be luminous or translucent, and in one mode of the invention, the relation between the perforations in the panel or background and the projections in the character units being such that the character units may be arranged in any desired manner as to spacing or position with respect to each other.

According to Figs. 1 and 2, the sign with changeable letters or other character units comprises a housing 15 made of metal or other suitable material, having a top wall 16, rear wall 17 and bottom wall 18. Bottom wall 18 is preferably provided with a plurality of perforations 19 to allow for the escape of any accumulation of water which may be caused by condensation, rain, hail or snow. Suitable lighting means 20 are arranged within the chamber 15' of housing 15 to illuminate the sign. Any conventional and suitable lighting means may be employed.

The front wall comprises the background, plate or panel on which the changeable letters or other characters or units (later on described) are mounted. Wall 21 is preferably made of luminous or translucent or transparent material such as suitable plastic composition or glass, and is provided with a plurality of holes or perforations 22 inclining downwardly from its front face 21' to its back or rear face 21''. Perforations 22 are arranged in a longitudinal series 23, each series comprising a top row 23a and a bottom row 23b.

A typical character unit in the form of the letter "D" is shown in section in Fig. 4, and comprises a hollow body 30 having a front wall or face 31 and diverging lateral walls or flanges 32, 33. Extending from the rear face or wall 30' are the pegs, pins or projections 34, 35 inclining downwardly from its back or rear face 30'. Projections 34, 35 are by location and construction adapted to fittingly engage any of the slanting perforations 22 and are made of translucent material where the character units are to be employed in connection with a background or panel 21 which is translucent, making the connection between the changeable character units and the background or panel through which the character units are supported on the panel, substantially invisible.

The character and its projections may be cast or molded in a suitable mold, in which case the projections would be made integral with the character per se, preferably of the same material, and if required, of translucent material.

Fig. 5 diagrammatically and conventionally shows the male and female parts 40, 41, respectively, of the mold having the molded character unit 42 formed therebetween. The molding of the character unit may be accomplished by any of the well known means.

However, because of the pins or projections 34 being inclined, the character unit 30 and consequently the mold has to be made such that the character unit 30 may be withdrawn from the mold 40 in the direction of the arrow 43. This is seen in Fig. 6. The character unit is thus provided with the inclined side wall or flange 33, and the further provision of flange 32 makes for a more aesthetic appearing character unit.

It is desirable to maintain the body of character unit at a distance from the front face 21' of the background 21. For this purpose, fins, enlargements or like projections 45 may be provided. A space is thus provided for foreign matter such as, snow, hail, rain to fall through and not collect on that part of the sign. The perforations 19 in panel 21 being inclined, rain or hail will not collect in the unused perforations or holes, but, on the other hand, would fall therethrough.

Fig. 3 illustrates some letters of the alphabet made up in accordance with the invention. Each letter is provided with a plurality of downwardly inclined pegs or projections arranged in such manner, for example, in the letter "A," where the pegs are represented by the numerals 24, 25, that the said pegs will be received in two holes, one below the other, as indicated by the numeral 26 in Figure 1.

Let it be assumed that the six holes bounded by the line 27 come under consideration for the support of a character. The pegs or projections 24, 25 of the letter "A" may be inserted in holes 27*a*, 27*b*. The pegs 24*a*, 25*a*, of the letter "D" may be inserted in the holes 27*c*, 27*d*; pegs 24*b*, 25*b*, of letter "G" may be inserted in holes 27*a*, 27*d*; pegs 24*c*, 25*c*, of letter "J," may be inserted in holes 27*d*, 27*e*; pegs 24*d*, 25*d* of the letter "N," may be inserted in holes 27*c*, 27*g*; pegs 24*e*, 25*e*, of the letter "Y" may be inserted in holes 27*c*, 27*e*. The foregoing arrangements are only illustrative of the many other variations possible.

Fig. 8 discloses a changeable sign embodying the invention in a modified form. According to this figure, the base background or panel 70, which is preferably made of transparent or translucent material is provided with the downwardly inclined holes 72 receiving the projections 73 of the flat character or intermediate background 71. Fins or other extensions 74 are provided on pegs 73 to limit the extent of insertion of the pegs to provide the desired space S between the body 71 of the character and the front face of panel 70, to allow foreign matter to pass therebetween and

for artistic spacing. The character intermediate background 71 including its pegs 73 may be formed of plastic composition by a molding process. Where both the panel 70, and the intermediate unit 71 are made of transparent or translucent material, the connections between the panel and the unit 71 will be substantially invisible. The intermediate background or display effect 71 is provided with perforations 72a to accommodate the reception of the pegs 73a of the character unit 31 or any other desired unit.

Fig. 9 discloses a sign 47 having a top wall 51, rear or back wall 49, end walls 50 and bottom wall 52. Extending upwardly from bottom 52 is a portion 48 of the sign arranged in zig-zag formation providing the inclined walls 64 and intermediate horizontal walls 65 connecting the inclined walls. The respective top and slanting walls 64, 65 form housings 61', 61'', in which are contained the illuminating means 62. The upper extremity of portion 48 of the sign is secured to portion 51' of top 51 as indicated at 66, an upper housing being formed by one of the slanting walls 64 and a part of the top 51, as clearly seen in the figure.

The top, bottom and rear walls 51, 49, 52, respectively, and the portion 48 of the sign are preferably made of a single sheet of metal in which case it will be easy to so attach portion 48 to top wall 51 as to provide overhanging tops for the respective housings 61, 61', 61''.

The front edges of the end walls 50 are so shaped as to conform to the shape of the portion 48. Secured to the front of each housing 61, 61', 61'', is a channelled frame, indicated respectively by the numerals 54, 56, 57. These frames clampingly receive the vertical backgrounds or panels 58, 59, 60, respectively, which may be of a construction similar to any of the panels heretofore described. However, the type sign box depicted in Fig. 9 is particularly adapted for the type of panel having the perforations or holes for receiving the pegs or pins of the character units. For, foreign matter, such as, rain or hail in passing through the unused perforations in the background or panel will fall through the openings 63, produced because of the overhanging tops 51, 65, and thus will not accumulate within the sign.

Fig. 10 discloses a changeable sign embodying the invention in a still further modified form. According to this figure, the background or panel 70b, preferably made of transparent or translucent material, is provided with the downwardly inclined holes 72b some of which receiving the projections 73b of the intermediate character or background 71b, and others of which receive the projections 34b extending from character unit 31b and passing through the enlarged openings 91 in intermediate background or display effect 71b. It is evident that pins or projections 34b are longer than those indicated by the numeral 73b, so that by the aforementioned construction the base background 70b, intermediate background 71b and character unit 31b, may be arranged in spaced relation giving very desirable and aesthetic effects. The pins 34b, 73b may be provided with the enlargements 92, 93, respectively to limit the extent of the same within their respective perforations.

Again referring to Figure 8, it is evident that the intermediate background 71 may be translucent or transparent and may have perforations spaced differently from the perforations in the base background 70, to allow for the engagement of letters or other characters of varied sizes.

From the foregoing description taken in connection with the accompanying drawings, it is apparent that improved simple, practical and inexpensive devices for the purpose intended are provided. It is apparent, however, that immaterial changes and modifications may be made by skilled persons without departing from the true spirit and scope of the invention as outlined in the appended claims.

Having thus described my invention, what I claim as new and desire to be secured by Letters Patent, is:

1. A sign comprising a translucent display panel having perforations inclining downwardly from its front to its back, a translucent unit comprising a character and projections inclining downwardly from the back of said character, said character and said projections consisting of an integral body, said projections adapted to be inserted in said perforations, and means on said projections to limit the extent of insertion of said projections in said perforations whereby to maintain said panel and said character in spaced relation.

2. A sign comprising a translucent display background having perforations therein inclining downwardly from its front to its back, a translucent unit adapted to be removably mounted on said background, said unit comprising a translucent character and translucent projections inclining downwardly from the back of said character, said projections adapted to be inserted in said perforations, and means for illuminating said background and said unit.

3. A sign comprising a background having perforations inclining downwardly from its front to its back, a first member having projections inclining downwardly from its back, said projections being adapted to engage said perforations, said first member having perforations inclining downwardly from its front to its back, and a character member having projections inclining downwardly from its back, said first member being intermediate said background and said character member, said projections of said character member being adapted to engage said perforations in said first member.

4. A sign comprising a background having perforations inclining downwardly from its front to its back, a first member having projections inclining downwardly from its back, said projections being adapted to engage said perforations, said first member having perforations inclining downwardly from its front to its back, and a character member having projections inclining downwardly from its back, said projections of said character member extending through perforations of said first member and engaging perforations in said background.

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