Jan. 16, 1934. R. E. BARCLAY ET AL 1,943,281

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FIG. 1.

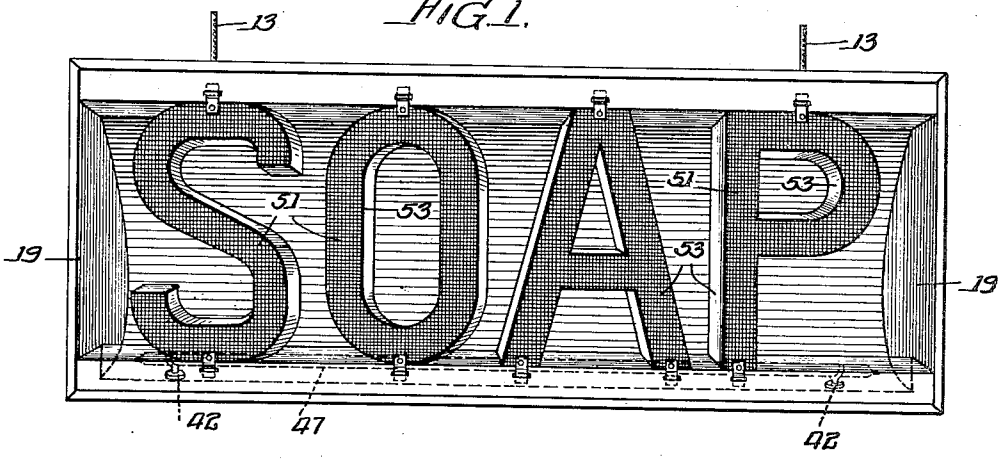

FIG. 2.

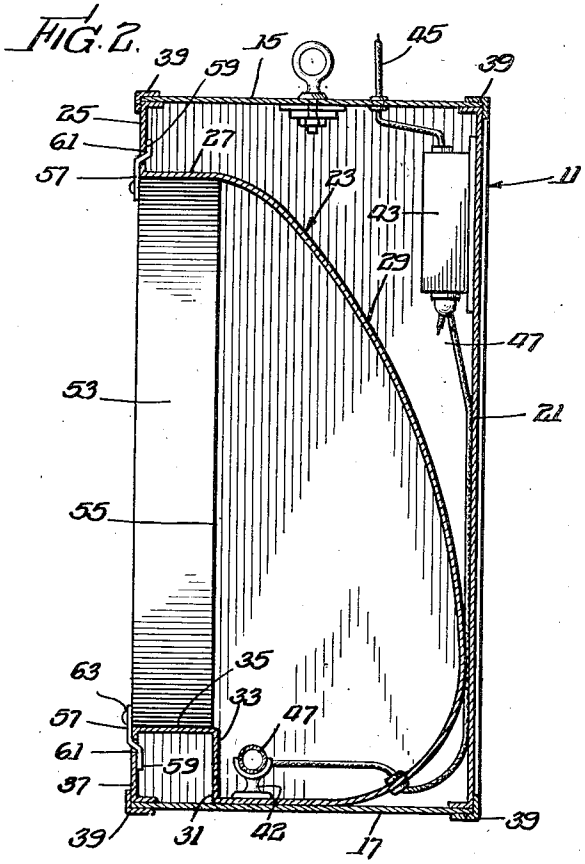

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FIG. 3.

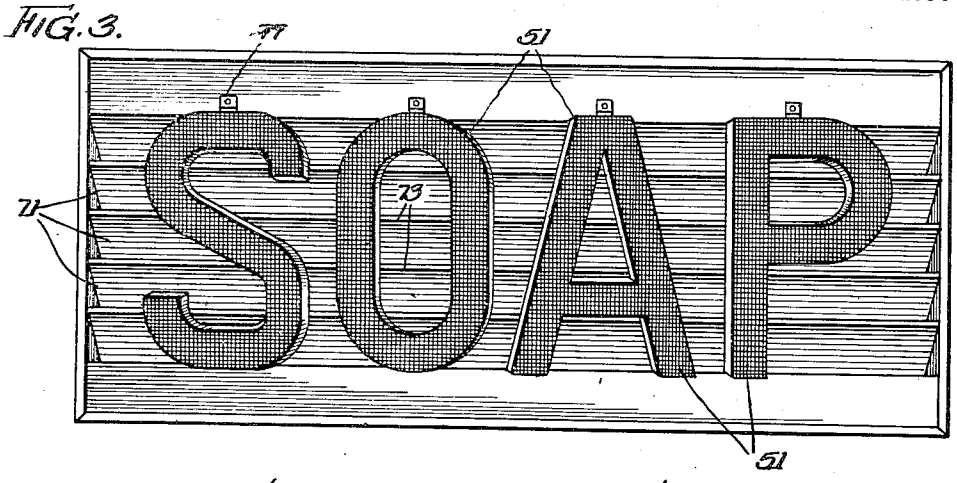

FIG. 4.

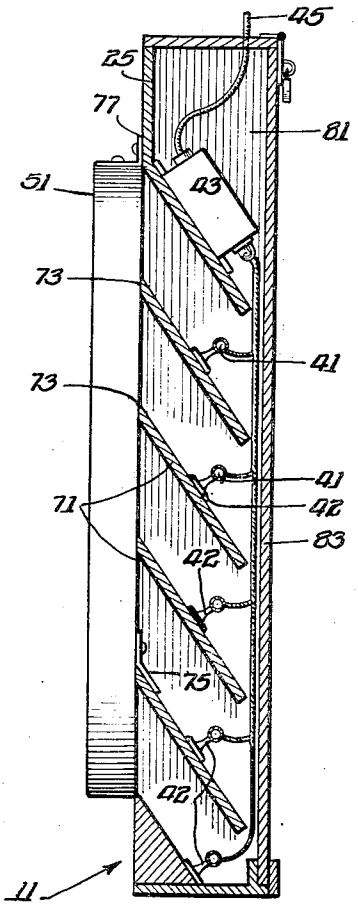

FIG. 5.

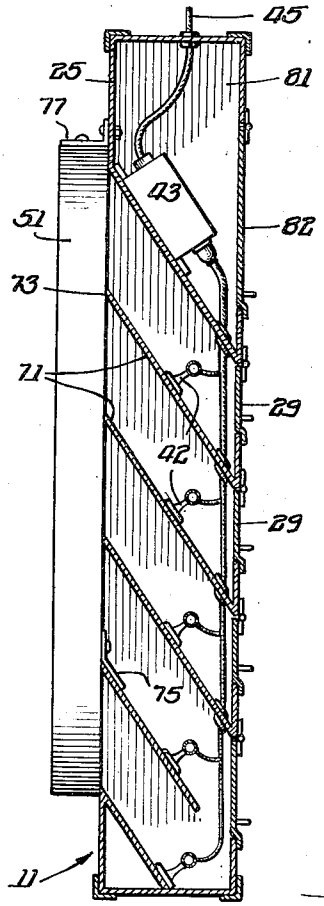

FIG. 6.

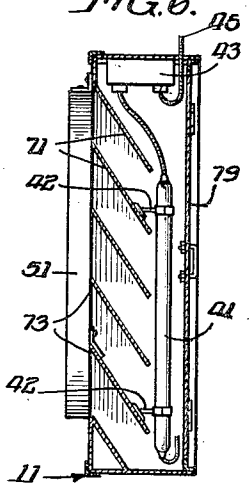

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FIG. 7.

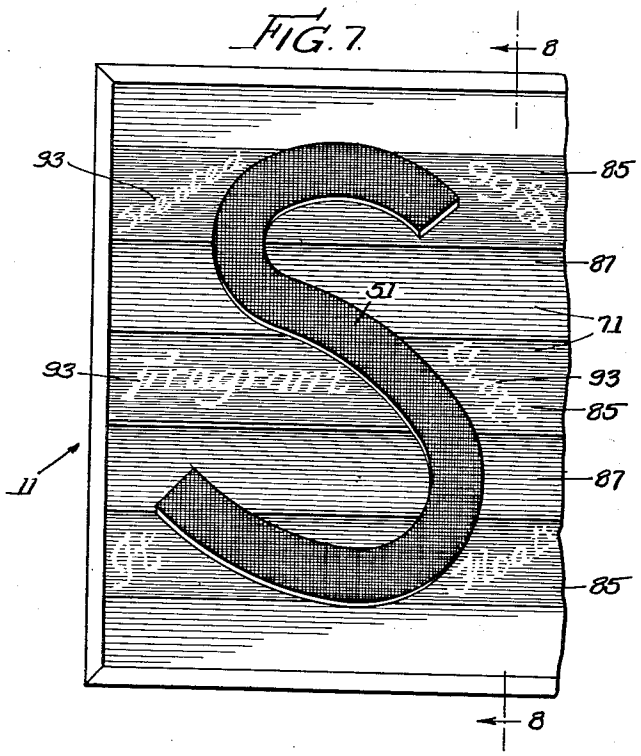


FIG. 8.

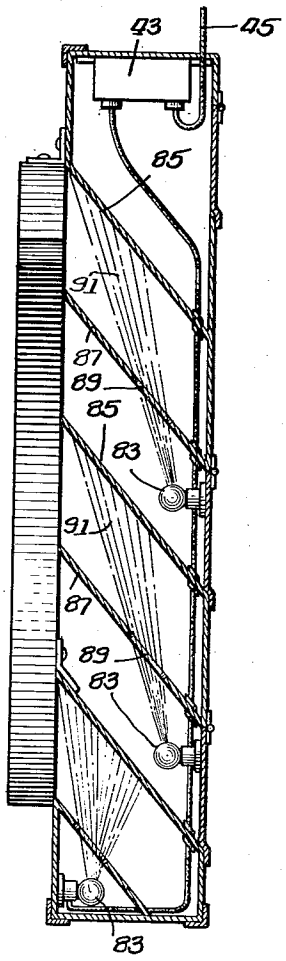
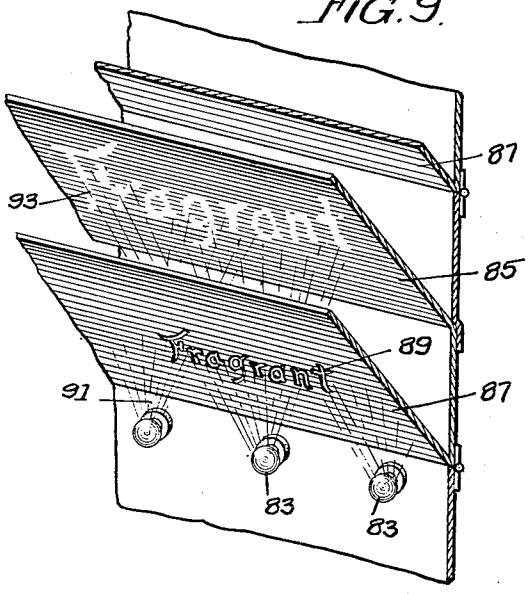


FIG. 9.



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Patented Jan. 16, 1934 1,943,281

UNITED STATES PATENT OFFICE

1,943,281

SIGN

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Application April 11, 1932. Serial No. 604,396

18 Claims. (Cl. 40—130)

Our invention relates in general to display devices and has more particular reference to an illuminated silhouette sign of novel construction and arrangement and productive of extremely sightly eye-arresting effects.

An important object of our invention is to provide a silhouette sign in which solid characters, forming subject matter of display, are illuminated from behind in order to provide a distinctive silhouetted appearance.

Another important object is to provide a sign having characters, the sides of which are formed with a light reflecting coating and the fronts of which are formed with a substantial non-reflecting dark coating, the sign including means to illuminate the character from behind in such a way as to illuminate the sides of the characters in order to cause the front of the letters to stand out in brilliant relief.

Another important object is to provide means to support block characters of the class described while illuminating them from the rear in order to give the characters a silhouetted appearance.

Other important objects reside in the means for illuminating the sign character from the rear including a reflector and concealed lights, preferably of the electrical discharge arc type; the provision of a casing in which to display the characters while illuminating them from the rear, the means for mounting the block characters in the casing and in general the provision of the extremely sightly and unusual silhouetted appearance of the letters in the sign.

One of the important features of the invention is the utilization of discharge arc illumination, such as is produced by the discharge of electrical arcs through a gaseous conductor medium as in the so-called "neon" lamps, in conjunction with block characters having a substantial thickness and having the front coated with any dark, preferably black, pigment while the sides of the character are covered with a light refracting pigment, such as aluminum, or silver paint, for the purpose of reflecting the "neon" light so that the darkened portions of the characters will stand out vividly against the illuminated sides of the characters and against the illuminated reflector back-ground.

Numerous other objects and advantages of the invention will be apparent as the same is more fully understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment of our invention.

Referring to the drawings:

Figure 1 is a perspective view illustrating a sign embodying our invention;

Figure 2 is a sectional view taken substantially along the line 2—2 in Figure 1;

Figure 3 is a perspective view of a sign embodying our present invention and illustrates a modifying manner of creating the novel silhouetted effect;

Figure 4 is a section taken substantially along the line 4—4 in Figure 3 to illustrate one manner of making the sign and attaching the characters in place;

Figure 5 is a similar sectional view illustrating another mode of making the sign, while

Figure 6 shows a still further modified construction.

Figure 7 is a perspective front view of a portion of a sign embodying our invention;

Figure 8 is a vertical section taken substantially along the line 8—8 in Figure 7; and

Figure 9 is a perspective view showing details of construction.

To illustrate our invention, we have shown on the drawings in Figures 1 and 2, a sign comprising a casing 11 preferably formed of sheet metal. The casing illustrated is of rectangular construction and has one or more hooks or rings 13 by which the sign may be supported. The casing comprises a top wall 15, bottom wall 17, side walls 19 and a rear wall 21. The front of the casing is open to receive a reflector member 23, which extends throughout the length of the casing and has an upper edge secured to the forward edge of the top wall 15. The reflector member 23 extends preferably vertically downwardly of the top 15 to form a panel 25 at the lower edge of which the reflector member extends inwardly to form a downwardly facing wall portion 27 from the inner edge of which the reflector member extends downwardly within the casing to form a reflector 29 facing outwardly of the open side of the casing. The lower edge of the reflector 29 rests upon and is supported by the bottom of the casing and extends forwardly to a point 31 spaced from the forward edge of the bottom 17 of the casing, thus the reflector member 23 is offset upwardly to form a wall 33, at the upper end of which the reflector member extends forwardly to provide an upwardly facing wall 35 at the forward end of which the reflector member is bent downwardly and extends to form a panel 37, which terminates and is secured to the forward edge. The casing and reflector as aforesaid may be formed of sheet metal pieces suitably formed

and welded together and strengthened as by the angle brackets 39, as is well known in the sheet metal art.

One or more illuminating devices 41 are suitably mounted as on supports 43 within the casing behind the wall 33 in position to illuminate the front surface of the reflector 29, which is preferably coated with a suitable light reflecting paint in order to brightly illuminate the opening between the side walls 19 and the oppositely facing wall portions 27 and 35.

We prefer to employ discharge illuminating elements, such as the gas glow tubes illustrated which produce light having stroboscopic characteristics, for the purpose of lighting up the sign, although it will be obvious that other illuminating elements may be employed. To illuminate the lamp 41, particularly if the same requires high voltage electrical power as where the lamp is a discharge arc device, such as a "neon" tube, we may mount a suitable transformer 43 within the space defined between the top wall 15, the back wall 21 and the reflector member 23. This transformer may be powered from a suitable external electrical source through the conductors 45 and in turn may be connected as by the conductors 47 to excite the illuminating devices 41.

To complete the sign, we arrange characters 51 between the upper and lower walls 27 and 35, that is to say, in the casing opening in front of the reflector 29. These characters are preferably block letters having a substantial thickness and the sides 53 and back 55 of the letters are preferably coated with a suitable light reflecting paint, which may be the same as that used upon the front face of the reflector 29. The front or forwardly facing surfaces of the characters 51 however, are preferably coated with a dark pigment so that when the illuminating device 41 is excited, the dark surfaces of the characters 51 will be silhouetted against the illuminated background and will provide a very unusual, beautiful and eye-arresting appearance.

The fact that the letters have a substantial thickness and that the sides of the letters are coated with a light reflecting material adds considerably to the beautiful appearance of the sign. A suitable luminescent material, such as fluorocine may also be added to the light reflecting pigment applied to the sides of the letters in order to cause the sign to glow brilliantly when illuminated and in this way the contrast between the sides and the dark forward surfaces of the letters may be heightened.

The characters 51 may be secured in place in any suitable manner, as by the fasteners 57 comprising bent strips having ends 59 insertable through slots 61 formed in the panels 25 and 37 immediately above and below the characters. After the ends 59 are inserted the lugs may be rotated so that their outer ends lie against the forward surfaces of the characters 51 and be secured in place as by the nails or brads 63 thus providing a readily removable yet securely fastened device for retaining the characters in mounted position between the walls 27 and 35 and in front of the reflector 29.

The front surfaces of the casing, including the panels 25 and 37 are also preferably colored with the same dark pigment with which the front surfaces of the characters are coated or a slight contrast may be made between the coloring of the panels 25 and 37 so that the characters may be more readily distinguished by daylight when the sign is not illuminated.

In Figures 3, 4, 5 and 6, we have illustrated modified constructions wherein the illuminated background for the letters is formed as a plurality of louvres 71, the front edges 73 of which are or may be darkened in order that the letters may appear to be superimposed upon a horizontally straited background. The opposed sides of the louvres 71 are coated with a suitable light reflecting pigment and illuminating devices 41 are positioned within the casing behind the louvres so as to illuminate their light reflecting sides.

As shown in Figures 4 and 5, the lamps are mounted in suitable brackets 42 attached to the upper sides of the louvres near their lower edges. The lamps extend horizontally in the sign. In Figure 6, however, the illuminating devices 41 extend vertically behind the louvres. In any event the inner edge of each louvre overlaps the front edge of the adjacent louvre sufficiently so that the lamps are not visible from outside of the sign unless the same is viewed from a position substantially above the sign, which does not ordinarily occur since signs of this character are mounted at an elevation above the observer. In the event that a sign is mounted below the point of observation, the louvres may be slanted downwardly in order to hide the lamps.

The characters 51 employed in the sign shown in Figures 3 through 6 may be of considerably less depth than those employed in the embodiment illustrated in Figures 1 and 2 and may be attached to the sign by providing a bracket 75 in the form of a hook near the lower end of the character in position to hook upon the upper edge of one of the louvres, the upper end of the character being attached to the upper panel 25 of the frame as by the angle bracket 77, one flange of which is attached to the frame of the sign while the other is attached to a character.

Where louvres are employed, it is desirable to provide access to the lamps 41 through the back of the sign casing and to this end doors 79 are provided opposite each lamp as illustrated in Figure 5 of the drawings.

The casing also is arranged to form a space 81 preferably between the uppermost louvre and the top of the casing in which a suitable transformer for exciting the lamps 41 may be housed, and rendered accessible through the door 82.

In Figure 4 of the drawings, we have shown the casing 11 and the louvres 71 as being formed of wood, with the entire back of the casing removable to provide access to the lamps 41 and transformer 43, while in Figures 5 and 6, the louvres and casing are formed of sheet metal as in the device illustrated in Figure 2 of the drawings.

In Figures 7, 8 and 9, we have shown a sign embodying the general construction illustrated in Figures 3 through 7 but having the illuminating devices arranged to produce spaced sources of light 83 along a light panel with the louvres, the louvres being alternately imperforate louvres 85 and louvres 87 perforated as at 89 to form designs or characters and the light sources 83 being arranged immediately adjacent the perforated louvres in position to cast rays of light 91 through the perforations 89, onto the portions of the imperforate louvre 85, which are visible from the front of the sign so that the normally faintly illuminated forwardly facing surfaces of the louvres 85 will receive the rays of light 91 in such a way as to create an illuminated design 93 cor-

responding to the configuration of the cut-out portions 89. In this way, the background upon which the characters 51 of the sign are displayed may also carry faintly illuminated designs or messages which are adapted, in conjunction with the letters of the main sign to furnish an advertising feature.

The details of our construction are, of course, optional and we do not wish to limit our invention to the particular material employed and to the constructions, which we have shown for the purpose of illustrating our invention, since numerous changes may be made in the form, construction and arrangement of the several parts without departing from the spirit or scope of the invention or sacrificing any of its attendant advantages; the forms hereinbefore disclosed being preferred embodiments for the purpose of illustrating our invention.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is as follows:

1. In a sign, a frame, a silhouette letter carried by the frame, a concealed lamp mounted on the frame and positioned to illuminate the sides of the letter, said letter having sides treated to glow when illuminated and having forwardly facing surfaces of contrasting visual appearance.

2. In a sign, a frame, a silhouette letter carried by the frame, a concealed lamp mounted on the frame and positioned to illuminate the sides of the letter, said letter having sides treated to glow when illuminated and having forwardly facing surfaces of contrasting visual appearance, a background comprising reflecting means behind the letter, said background being also illuminated to cause the letter to contrast vividly against the background and to stand out in a highly eye-arresting and sightly manner creating a stereoptic or dimensional effect.

3. In a device of the class described, a frame, a plate forming a background portion and an adjacent perforated plate forming a screen, a source of illumination behind the screen in position to illuminate the first mentioned plate through the perforated portion of the second plate and means forming a silhouette character mounted in front of said illuminated plate.

4. In a sign, a frame, a silhouette letter carried by the frame, a concealed lamp mounted on the frame and positioned to illuminate the sides of the letter, said letter having sides treated to glow when illuminated and having forwardly facing surfaces of contrasting visual appearance, a background for said letter comprising reflecting means, and means cooperatively associated with the concealed lamp for illuminating said reflecting means in accordance with a predetermined pattern.

5. In a sign, a frame, a silhouette character mounted in the frame, concealed illuminating means carried by the frame and positioned to illuminate the sides of the character without illuminating the front thereof, the sides of said character being treated to reflect in a brilliant manner light rays impinged thereon and the forwardly facing surfaces thereof being treated to render the same substantially non-reflecting whereby to cause the front surfaces of the character to stand out darkly against the illuminated edges in order to create a stereoptic effect.

6. A sign comprising a block character of substantial depth having substantially non-reflecting forwardly facing surfaces and side edges to reflect light rays impinging thereon, and means to illuminate the side edges without illuminating the forwardly facing surfaces of the character.

7. A sign comprising a block character of substantial depth having luminescent light reflecting side edges and forwardly facing surfaces of contrasting visual appearance, and means to illuminate the side edges without illuminating the forwardly facing surfaces of the character.

8. In a sign, a casing having an opening, a block character in said opening, said character having light reflecting side edges and forwardly facing surfaces of contrasting visual appearance, and means carried by said casing behind the opening to illuminate said light reflecting side edges.

9. In a sign, a casing having an opening, a block character supported in said opening, said character being of substantial depth and having light reflecting side edges and forwardly facing surfaces of contrasting visual appearance, and illuminating means carried by the casing behind the opening to illuminate said light reflecting side edges, said illuminating means comprising in conjunction a reflector and a lamp carried in the casing behind the character.

10. In a sign, a frame, a silhouette block character carried by the frame, said character having side edges adapted to reflect light rays impinging thereon and forwardly facing surfaces of contrasting visual appearance, a concealed lamp mounted in the frame and positioned to illuminate the sides of the character, a background for said character comprising light reflecting means, and means cooperatively associated with the concealed lamp for illuminating said reflecting means in accordance with a predetermined shadow pattern.

11. In a device of the class described, a frame, a plate forming a background and an adjacent perforated plate forming a screen, a source of illumination behind the screen in position to illuminate the first named plate through the perforated portion of the second plate, said plates forming horizontally arranged louvres in said frame serving to conceal the source of illumination, and a silhouette sign character mounted in front of said louvres.

12. In a device of the class described, a frame having an opening, means comprising a plurality of spaced plates forming louvres mounted in said opening, a silhouette sign character comprising a block of substantial depth supported in front of said louvres, said block having light reflecting side edges and forwardly facing surfaces of contrasting visual appearance and lighting means carried by the frame to illuminate the light reflecting side edges without illuminating the forwardly facing surfaces of the character said louvres being tilted to hide the lighting means from observers while permitting rays from the lighting means to strike the sign characters.

13. In a sign, a frame, a silhouette sign character comprising a block of substantial depth carried by the frame, said block having luminescent light reflecting side edges and forwardly facing surfaces of contrasting visual appearance, concealed means mounted on the frame and positioned to illuminate the sides of the sign character, and a background in said frame comprising reflecting means behind the character, said background being also illuminated to contrast the character against the background and cause the character to stand out in stereoptic fashion.

14. In a device of the class described, a frame, a plate forming a background and an adjacent perforated plate forming a screen, a source of

illumination behind the screen in position to illuminate the first named plate through the perforated portion of the second plate, and means forming a block character of substantial depth mounted in front of said illuminating plate, said character having light reflecting side edges exposed to direct rays from the concealed source of illumination and forwardly facing surfaces of contrasting visual appearance.

15. A sign comprising a block character of substantial depth having light reflecting side edges and forwardly facing surfaces of contrasting visual appearance, and means to directly illuminate the light reflecting edges with stroboscopic light without illuminating the forwardly facing surfaces of the character.

16. In a sign, a frame, a silhouette letter carried by the frame, and a concealed lamp mounted on the frame and positioned to directly illuminate the sides of the letter with stroboscopic light, said sides being treated to glow when illuminated and having forwardly facing surfaces of contrasting visual appearance.

17. A display device comprising a frame, a block sign character of substantial depth supported in the frame, means forming an illuminated background in the frame for said character, said character having light reflecting side edges and a forwardly facing surface of contrasting visual appearance, illuminating means on said frame to illuminate the background, and a perforated plate forming a screen between the illuminating means and a background to form a predetermined shadow pattern on said background.

18. A sign comprising a block character of substantial depth having light reflecting side edges and forwardly facing surfaces of contrasting visual appearance, and means for illuminating the light reflecting edges without illuminating the forwardly facing surfaces.

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