Feb. 14, 1939. W. W. HAYS 2,147,033

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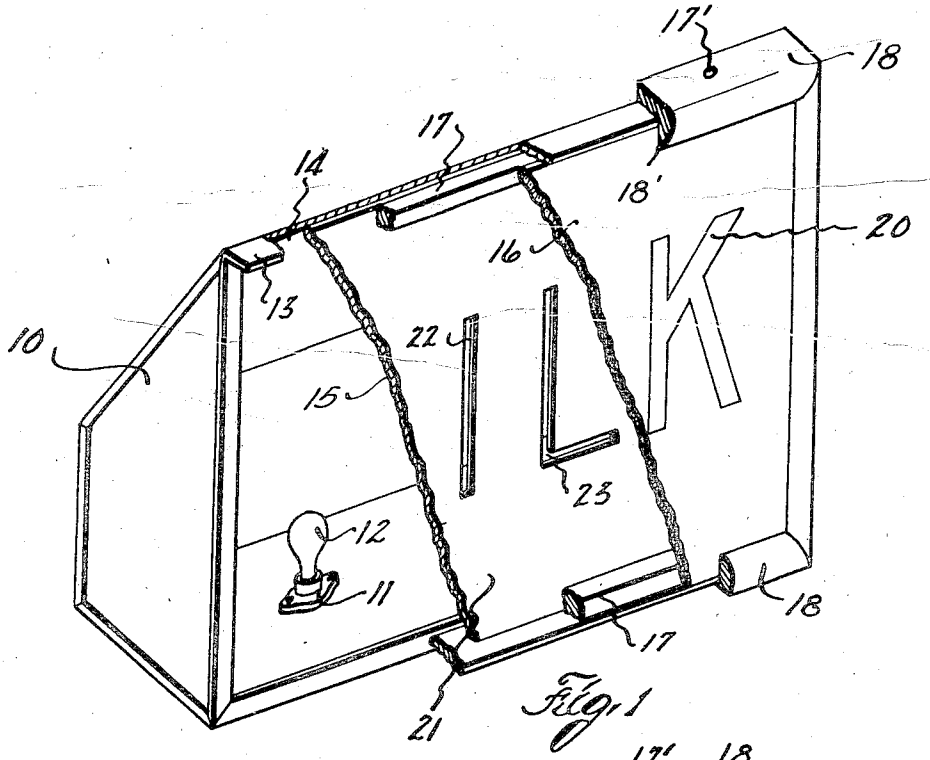


Fig. 1

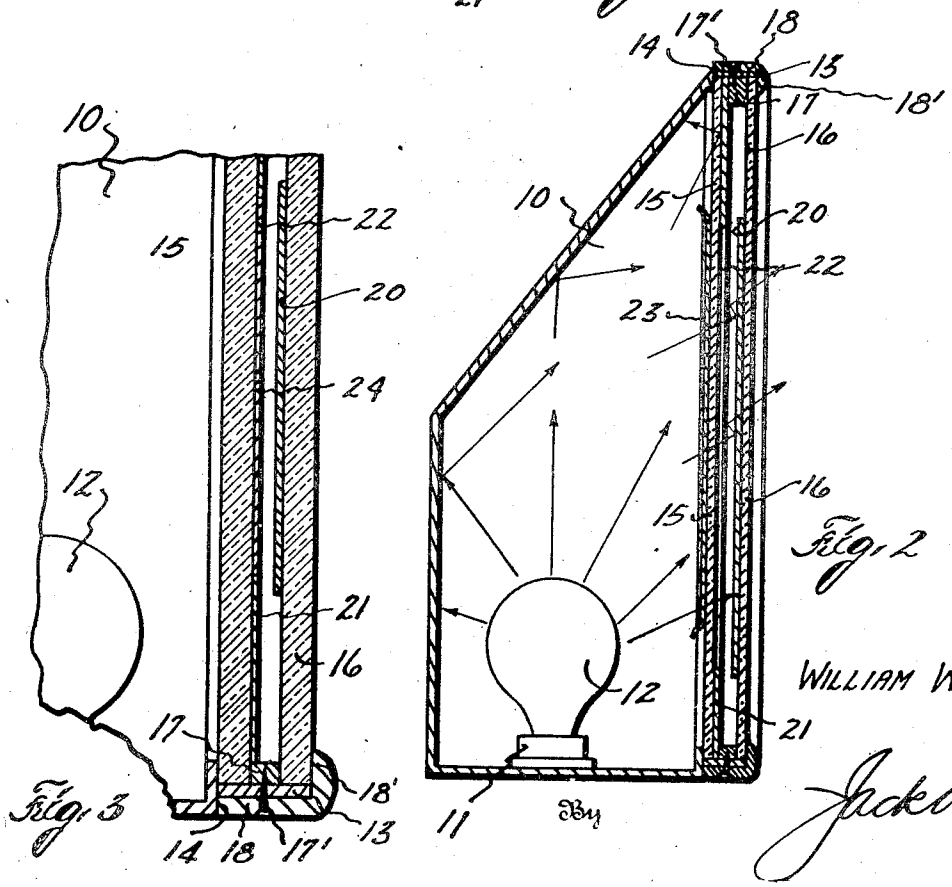


Fig. 2

Fig. 3

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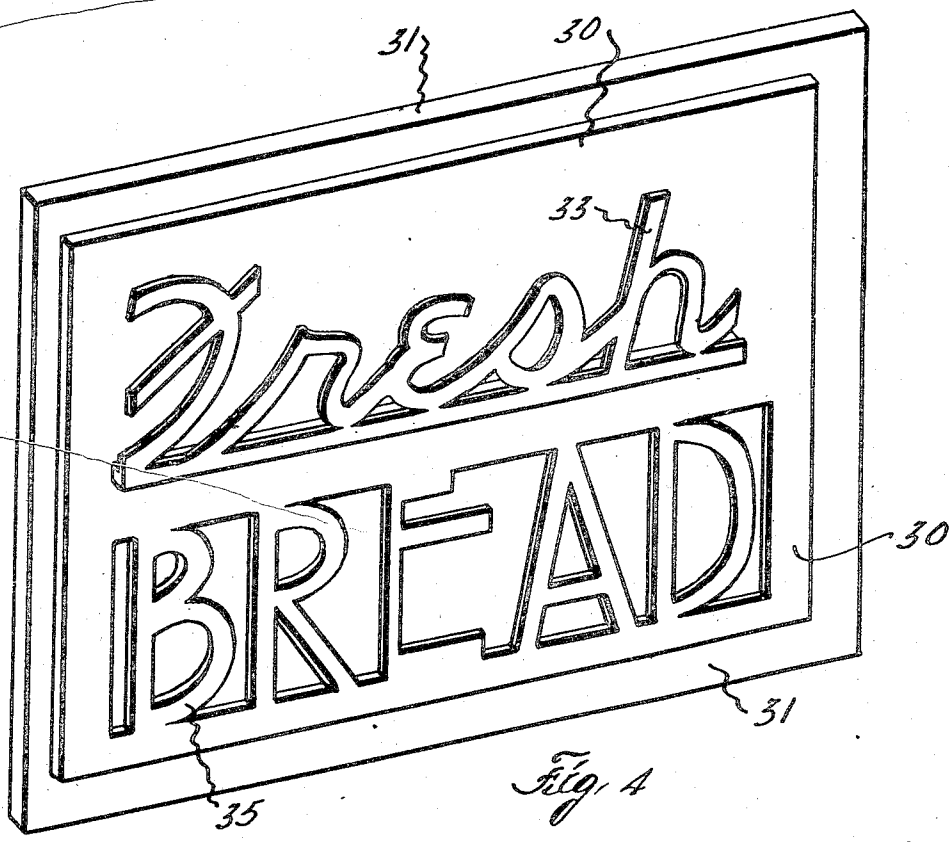


Fig. 4

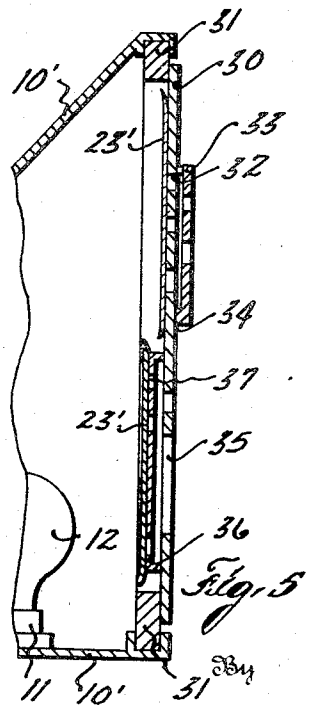


Fig. 5

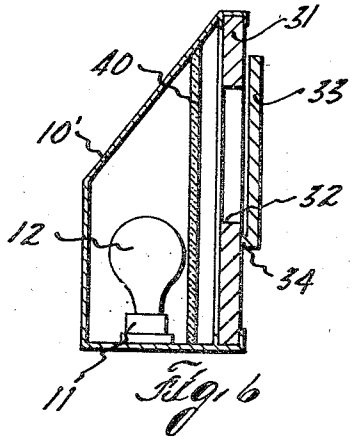


Fig. 6

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Patented Feb. 14, 1939 2,147,033

UNITED STATES PATENT OFFICE

2,147,033

SIGN

William W. Hays, Greenville, Tex., assignor of twenty per cent to Arthur W. Lilly, Greenville, Tex.

Application June 26, 1937, Serial No. 150,559

9 Claims. (Cl. 40—133)

This invention relates to new and useful improvements in signs.

One object of the invention is to provide an improved sign wherein the background behind the indicia, symbols, lettering or other display characters, may be illuminated so as to produce a brilliant glow around said display characters, whereby said characters are more visible and the sign made more attractive.

An important object of the invention is to provide an improved sign including a background having display characters spaced from said background, with means for projecting a colored light onto the back of the display characters, whereby the light is reflected on said background to produce a brilliant glow outlining the characters.

Another object of the invention is to provide an improved sign wherein the indicia or display characters are spaced from a background having openings therein, said openings being in alinement with the display characters so that light may be projected through the openings onto the back of the characters; there being a colored medium interposed being the light source and the background, whereby the light passing through the openings is colored so that regardless of the angle from which the sign is viewed, only the colored light or its reflection is visible.

A further object of the invention is to provide an improved sign of the character described, wherein the light projected through the background onto the back of the display letters may be colored by any suitable medium such as colored transparent paper, colored glass or the like, which permits the coloring medium to be readily changed to quickly and easily change the coloring effects of the sign.

A construction designed to carry out the invention will be hereinafter described, together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, in which an example of the invention is shown, and wherein:

Figure 1 is a perspective view, with portions thereof broken away, of a sign constructed in accordance with the invention,

Figure 2 is a transverse, vertical sectional view of the same,

Figure 3 is a partial sectional view of a slightly modified form of the invention,

Figure 4 is a perspective view of another form of the invention,

Figure 5 is a transverse, vertical, sectional view of the same, and

Figure 6 is a reduced vertical, sectional view of still another modification of the invention.

In the drawings, the numeral 10 designates a light reflecting housing or box which is provided with a plurality of electric lamp sockets 11 therein. Electric lamps or bulbs 12 are mounted in the sockets and light the interior of the housing or box. The front side of the housing is open and the shape of said housing is such that the light is reflected or projected forwardly through this open side.

A peripheral flange 13 surrounds the open front side of the housing and is directed forwardly therefrom, as is clearly shown in Figure 2. A shoulder 14 is formed at the inner end of said flange and a background panel or sheet 15 is adapted to be inserted within the flange so as to abut said shoulder. The panel is preferably constructed of glass and completely closes the open side of the housing. An outer display panel 16, also preferably constructed of glass or other transparent material, is inserted within the flange 13 and is spaced from the background panel 15 by spacing strips 17 which may be secured in place by screws 17' which pass through the flange 13, or in any other suitable manner. An angular retaining frame 18 engages over the outer end of the flange 13 and has one leg 18' overlying the marginal edge portion of the display panel to hold said panel in place within the flange 13. The other leg of the retaining frame extends contiguous to the outer surface of the flange 13 and is suitably secured thereto, preferably by the screws 17' which pass through the flange and into the spacing strips 17. With such arrangement, the panels 15 and 16 are rigidly and securely fastened in the light reflecting housing or box and may be readily removed for replacement or for any other reason by merely removing the retaining frame 18. It is noted, however, that the panels may be mounted in said housing in any suitable manner.

In carrying out the invention, the indicia, symbols, or other display characters, are applied to the inner surface of the display panel 16 in any desired manner, as by painting, or otherwise. As shown in the drawings, the indicia are in the form of letters 20 which spell a desired word or words and are painted on the inner surface of the panel 16, an opaque paint being employed so that light striking said letters cannot pass therethrough. Since the panel is constructed of glass or other transparent material any light

projected from the housing 10 is visible therethrough except through such portion covered by the letters, whereby said letters stand out in silhouette.

For controlling the projection of light from the interior of the housing through the display panel 16, the background panel or sheet 15 has its outer surface coated with an opaque paint or other substance 21. This coating covers the entire surface of the panel except for those portions 22 which are directly behind the opaque characters or letters 20 on the display panel 16. The uncoated portions take the form of the letters in alinement therewith and are narrower in width whereby when the sign is viewed from the front the letters 20 completely hide the uncoated portions 22 and only the opaque background 21 with the letters 20 overlying the same, is visible. The light from the interior of the housing is projected through the uncoated portions 22 of the background panel 15 and strikes the back of the characters or letters 20 on the display panel 15, and is then reflected onto the background 21. If desired, the back of each letter 20 may be coated with white or silver paint so as to increase the reflection. As the reflected light strikes the opaque background 21, a brilliant glow is produced which clearly outlines the letter to make the same clearly visible.

In order to produce sufficient reflection it has been found that the panels 15 and 16 must be spaced some distance apart and this spacing makes the uncoated portions 22 on the panel 15 visible when the sign is viewed from an angle. Therefore, it is desirable to project a colored light from the interior of the housing through said uncoated portions, whereby the light passing through the portions 22 is of the same color as the reflected light which strikes the background 22 and thus, regardless of the angle from which the sign is viewed, the same color is always visible. Heretofore, it has been the practice to project a plain light through openings in the background and to paint the back of the display characters with the desired color and in order to obtain sufficient reflection, the spacing between the background and letters must be comparatively great, in which case the white light passing through the openings is visible when viewing the sign from an angle. The visibility of this white light as well as the colored reflected glow on the background ruins the effectiveness of the sign.

In order to project a colored light through the uncoated portions 22 so as to avoid the above disadvantages, a transparent colored medium 23, which may be Celluloid, "Cellophane", or the like is secured to the inner surface of the panel 15. This medium may be attached to the panel by gluing, or other suitable means and manifestly, the light passing through the uncoated portions 22 must pass through the colored medium, whereby the light rays striking the back of the letters 20 is colored. Therefore, when the sign is viewed from an angle, only a colored light is visible and a most effective sign is produced.

Although the colored medium is preferably some transparent material which may be suitably fastened to the inner surface of the panel 15, other means of coloring the light rays may be employed. For example, as shown in Figure 3, the uncoated portions 22 of the panel may be covered with a transparent colored paint 24, whereby the rays striking the backs of the letters 20 is colored. It is pointed out that various means may be provided for coloring the light rays prior to their passage through the panel 15 and so long as the coloring medium is interposed between the light source and the panel 15, the purposes of the invention are accomplished.

In Figures 4 and 5, a modified form of the invention is shown. In this form the glass panels 15 and 16 are omitted and a background sheet or panel 30 is secured to a frame 31 which is fastened to the open side of the light reflecting box 10'. This background panel may be made of wood, heavy cardboard, or the like and is provided with openings 32 therein, through which light may pass. Display characters or indicia 33 are cut out from a solid piece of material such as wood and are formed with a strip or bar 34 at their lower ends. The bar is secured to the outer surface of the background panel 30, which spaces the indicia from said background. The openings 32 in the panel 30 coincide with the display characters 33 and a transparent coloring medium 23' is secured to the inner surface of the panel to cover the openings. The colored light rays strike the rear side of the characters and cast a brilliant glow on the background, silhouetting the characters.

The display characters may be mounted in the sign shown in Figures 4 and 5 in another manner, as disclosed in the lower display characters 35 shown in this sign. In this case the characters 35 are cut out of the panel 30 and a background strip 36 is secured to the inner side of the panel. This strip has openings 37 complementary to and in alinement with the characters and these openings are covered by the transparent coloring medium 23'. Manifestly, the same effect is produced with this structure.

As above pointed out, the medium which is interposed between the light source and the openings in the background is subject to variation and, as shown in Figure 6, a colored glass plate or panel 40 is inserted between the light bulb 12 of the housing and the background panel 31. The coloring of the glass, of course, colors the light rays which are projected onto the back of the display characters. In all forms, the light rays passing through the background openings are of the desired coloring.

It is noted that the light need not be provided by an electric lamp as shown, but any suitable source of light may be employed. It has been found that sunlight passing through the background panel is sufficient to create a glow on the background so as to enhance the appearance of the sign. Further, the particular openings in the background panel are subject to variation and by providing sufficient openings, it would be possible to produce a glow which would cover the entire surface of the background panel instead of merely outlining each letter or character.

What I claim and desire to secure by Letters Patent is:

1. A sign including, a transparent background panel, an opaque coating covering portions of the surface thereof to provide uncoated portions through which light rays may pass, a transparent display panel spaced from the background panel and having display characters on one surface thereof, said characters being located on the display panel surface which is adjacent the background panel and overlying the uncoated portions of the background panel so that light rays passing through said portions strike the back of said characters and reflect on the background,

and means interposed between the light source and the characters for coloring the light rays passing through said uncoated portions.

2. A sign including, a transparent background panel, an opaque coating covering portions of the surface thereof to provide uncoated portions through which light rays may pass, a transparent display panel spaced from the background panel and having display characters on one surface thereof, said characters being located on the display panel surface which is adjacent the background panel and overlying the uncoated portions of the background panel so that light rays passing through said portions strike the back of said characters and reflect on the background, and a coating of transparent colored material covering the uncoated portions of the panel whereby the light rays passing therethrough are colored.

3. A sign including, a casing, a background panel mounted in the casing and having light admitting openings therein to permit light to pass therethrough, means for illuminating the interior of the casing, a display panel spaced from the background panel and having opaque display characters overlying the openings, said characters being of a larger size than the openings whereby the marginal edges of the characters extend beyond the margins of the openings so that light passing through the openings strikes the back of the characters and is reflected onto the background to produce a brilliant reflected glow, and means interposed between the light source and the openings for coloring the light rays passing through the openings.

4. A sign including, a casing, a background panel mounted in the casing and having light admitting openings therein to permit light to pass therethrough, means for illustrating the interior of the casing, a display panel spaced from the background panel and having opaque display characters overlying the openings, said characters being of a larger size than the openings whereby the marginal edges of the characters extend beyond the margins of the openings so that light passing through the openings strikes the back of the characters and is reflected into the background to produce a brilliant reflected glow, and a transparent colored medium interposed between the light source and the openings in the background panel for coloring the light rays passing through the openings.

5. A sign including, a transparent background panel, an opaque coating covering portions of the surface thereof to provide uncoated portions through which light rays may pass, a transparent display panel spaced from the background panel and having display characters on one surface thereof, said characters being located on the display panel surface which is adjacent the background panel and overlying the uncoated portions of the background panel so that light rays passing through said portions strike the back of said characters and reflect on the background, and a transparent colored medium secured to the rear surface of the background panel and covering the uncoated portions thereof for coloring the light rays passing therethrough.

6. A sign including, a background panel having light admitting openings therein to permit light to pass therethrough, a transparent display panel spaced from the background panel and having opaque display characters overlying the openings in the background panel, said characters being located on the inner surface of the display panel which is adjacent the background panel, whereby the light rays passing through the openings strike the back of said characters and are directly reflected onto the background panel around the openings, and means interposed between the light source and the characters for coloring the light rays passing through the openings in said background panel.

7. A sign including, a background panel having light admitting openings therein to permit light to pass therethrough, a transparent display panel spaced from the background panel and having opaque display characters overlying the openings in the background panel, said characters being located on the inner surface of the display panel which is adjacent the background panel, whereby the light rays passing through the openings strike the back of said characters and are directly reflected onto the background panel around the openings, means interposed between the light source and the characters for coloring the light rays passing through the openings in said background panel, and a coating of transparent colored material covering the light admitting openings in the background panel for coloring the light rays passing therethrough.

8. A sign including, a background panel having light admitting openings therein to permit light to pass therethrough, a transparent display panel spaced from the background panel and having opaque display characters overlying the openings in the background panel, said characters being located on the inner surface of the display panel which is adjacent the background panel and being of a larger size than the openings so that the marginal portion of each character extends beyond the margins of the opening which it overlies, whereby the light rays passing through the openings strike the back of said characters and are directly reflected onto the background panel around the openings, and means interposed between the light source and the characters for coloring the light rays passing through the openings in said background panel.

9. A sign including, a transparent background panel, an opaque coating covering portions of the surface thereof to provide uncoated portions through which light rays may pass, a transparent display panel spaced from the background panel and having display characters on one surface thereof, said characters being located on the display panel surface which is adjacent the background panel and overlying the uncoated portions of the background panel, each character being of larger size than the uncoated portion of the background panel which it overlies whereby the margins of each character extend beyond the margins of the uncoated portion in alinement therewith so that light rays passing through said portions strike the back of said characters and reflect on the background, and means interposed between the light source and the characters for coloring the light rays passing through said uncoated portions.

WILLIAM W. HAYS.

CERTIFICATE OF CORRECTION.

Patent No. 2,147,033. February 14, 1939.

WILLIAM W. HAYS.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 3, first column, line 39, claim 4, for the word "illustrating" read illuminating; line 48, same claim, for "into" read onto; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 27th day of June, A. D. 1939.

(Seal)

Henry Van Arsdale
Acting Commissioner of Patents.