April 4, 1939. I. V. MANSELL 2,152,653

LUMINOUS TUBE SIGN

Filed Jan. 11, 1938 2 Sheets-Sheet 1

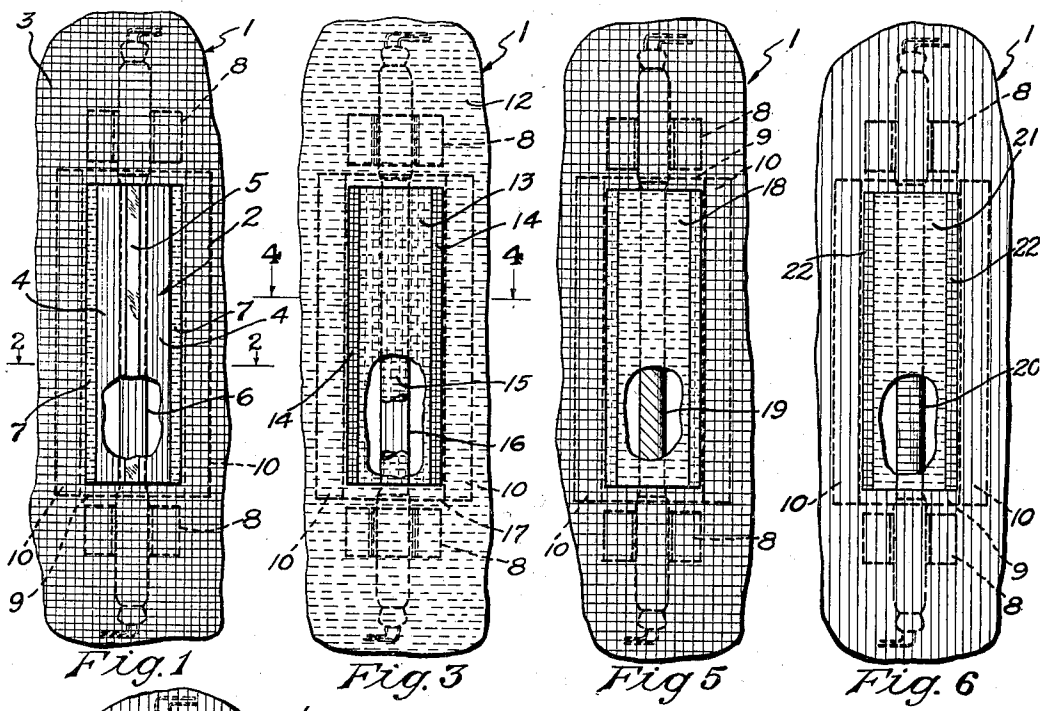


Fig. 1 Fig. 3 Fig 5 Fig. 6

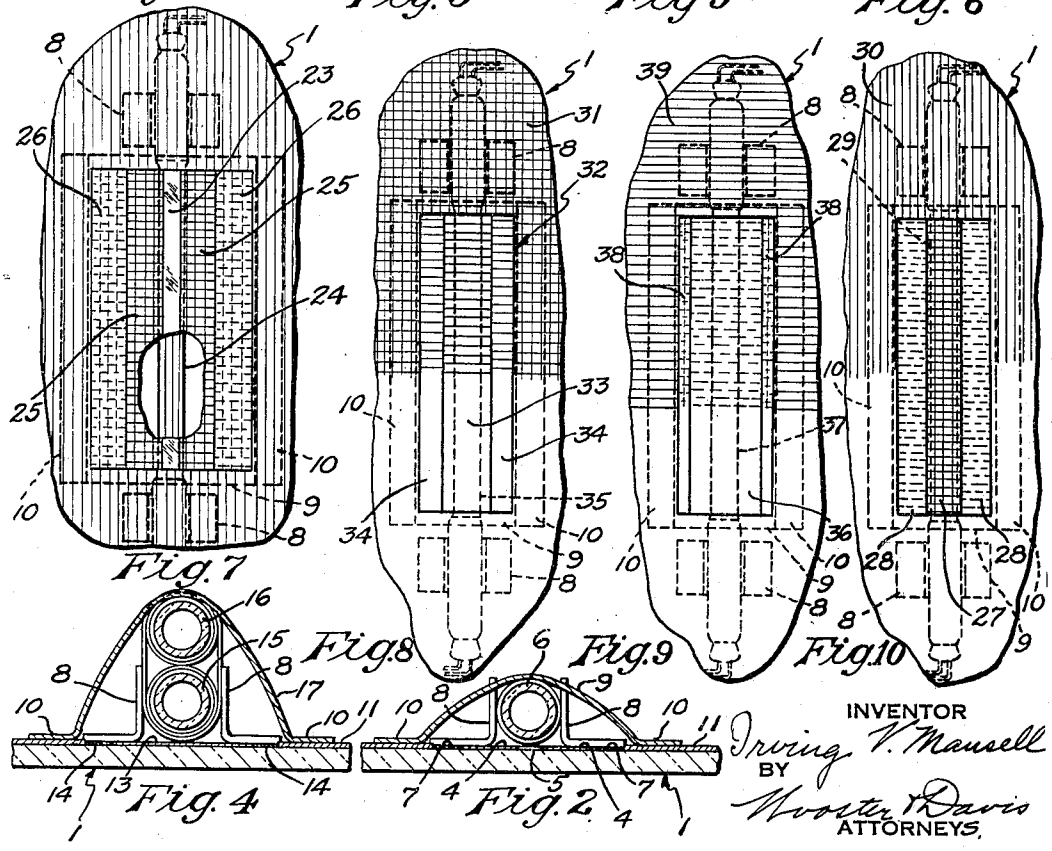


Fig. 7 Fig. 8 Fig. 9 Fig. 10

Fig. 4 Fig. 2

INVENTOR

Irving V. Mansell

BY

Wooster & Davis

ATTORNEYS.

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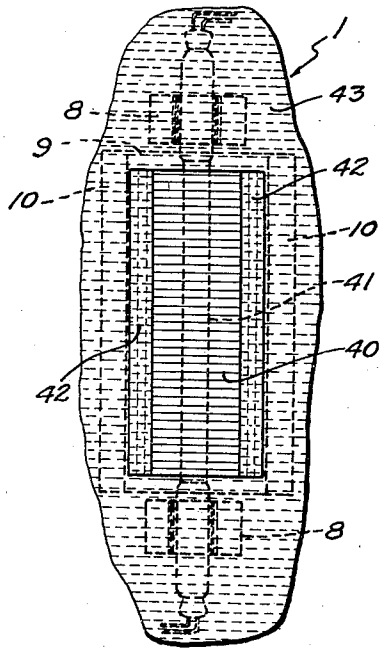


Fig. 11

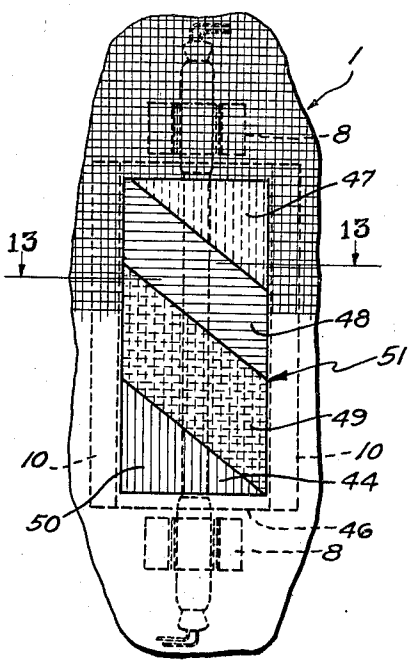


Fig. 12

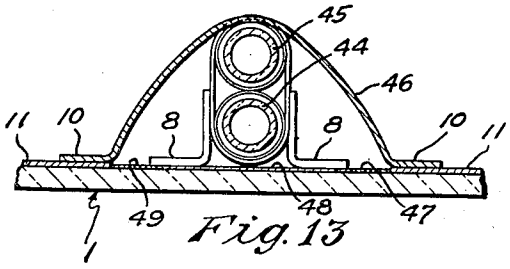


Fig. 13

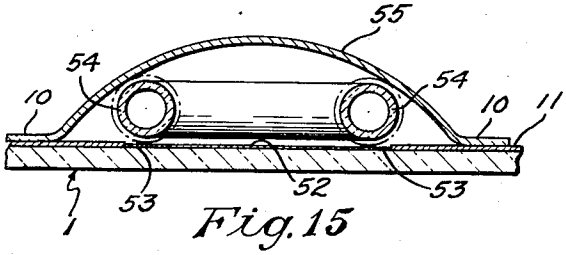


Fig. 15

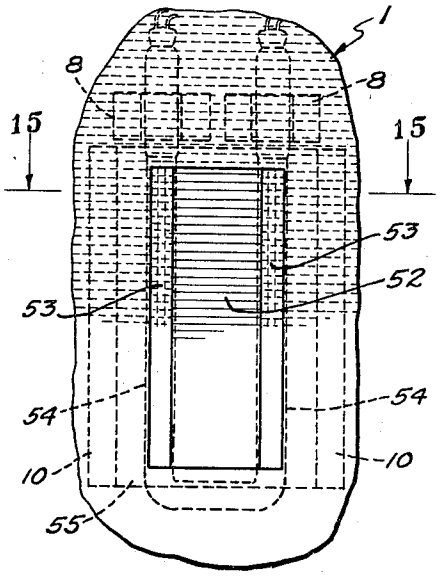


Fig. 14

INVENTOR

Irving V. Mansell

BY

Wooster & Davis

ATTORNEYS.

Patented Apr. 4, 1939 2,152,653

UNITED STATES PATENT OFFICE

2,152,653

LUMINOUS TUBE SIGN

Irving V. Mansell, Bridgeport, Conn.

Application January 11, 1938, Serial No. 184,443

20 Claims. (Cl. 40—133)

This invention relates to display signs, particularly to luminous tube signs employing either elongated tubular lamps of the so-called "neon" type or the elongated tubular lamps employing an incandescent filament, and has for an object to provide improved character strokes and arrangement of the elongated tubular lamps in such a way as to protect the lamps and to secure much more brilliant and varied effects than is possible with the present sign constructions and arrangements. The main feature of the invention is the employment of a translucent character stroke, including the use of various types of coloring matter such as dyes, pigments and so forth, or luminescent, fluorescent, or phosphorescent materials on the glass (throughout the specification and the claims, for convenience and to simplify the terminology the term "translucent" is used to indicate any one of these types of surfaces as their effects are similar) with the elongated tubular lamp immediately to the back of this character stroke so as to lie closely adjacent the rear face of the glass and in alignment with the character stroke so as to follow this stroke and the outline of this lamp is visible from the front when illuminated. It is preferred that the translucent stroke be considerably wider than the luminous tubular lamp, but improved effects are also secured where the luminous stroke is of no greater width or even of less width than the width of the lamp.

In the accompanying drawings are shown by way of example a number of different arrangements of the translucent stroke and the tubular lamps illustrating how various effects may be secured. It is, however, to be understood that the invention is not limited to the specific arrangements or colors illustrated, but that an infinite number of different arrangements and color combinations may be secured with this invention, which is one of the particular advantages thereof.

In these drawings:

Fig. 1 is a front elevation of a portion of a glass panel or face of a sign showing one arrangement of the invention, a portion of the plate being broken away to show the lamp in back of it;

Fig. 2 is a transverse section substantially on line 2—2 of Fig. 1 on an enlarged scale;

Figs. 3, 5, 6, 7, 8, 9, 10, 11, 12, and 14 are views similar to Fig. 1 showing other arrangements and combinations which may be secured;

Fig. 4 is a transverse section substantially on line 4—4 of Fig. 3 on an enlarged scale;

Fig. 13 is a transverse section substantially on line 13—13 of Fig. 12 on an enlarged scale; and

Fig. 15 is a transverse section substantially on line 15—15 of Fig. 14 on an enlarged scale.

In the various figures of the drawings the surfaces are lined to indicate various colors, but as indicated above I wish it to be distinctly understood that the invention is not limited to the use of the colors indicated, but these are shown merely by way of example and that various other colors and combinations will readily suggest themselves. In Figs. 8, 9, 10, 12 and 14 the lining for color is not carried throughout the surfaces involved in order to reduce the number of lines and simplify the drawings.

In all the forms shown the principal feature of a translucent (luminescent, phosphorescent or fluorescent) stroke is employed with an elongated tubular lamp immediately to the rear thereof and in alignment with and following the stroke, but this translucent stroke is subject to various modifications and color combinations as will be more clearly pointed out as the description proceeds. Also, in each illustration for simplicity a single straight stroke is shown which may be either the letter "I" or a portion of any other letter or design, it to be clearly understood that this stroke may be made of various shapes and sizes depending upon the sign and the display matter to be used. Also, for convenience the tubular lamps illustrated are of the so-called "neon" type employing tubes filled with a gas which becomes luminous on the passage of an electric current of the proper voltage and amperage, such as neon, argon, helium, etc. but the elongated tubular filament lamps or the new fluorescent tubes, or any of the elongated tubular lamps, may be used.

Referring first to the form shown in Fig. 1 there is shown a portion 1 of a glass face plate or panel of a display sign. Although glass is the material most commonly used for these plates, as it is the cheapest and most easily available, still the term "glass" is used to include other materials which could be used for this purpose, such, for example, as various plastics and synthetic resins. This glass plate has formed thereon a translucent stroke 2 with a contrasting background for daylight visibility. The background 3 is lined for black, but it will of course be understood it may be of any desired color. In the present case this translucent stroke 2 includes two strips 4 which are of any suitable width and color. In the present showing they are lined for red and they are separated by a narrow strip 5 either of clear glass or glass covered with a very thin translucent coating to give a different effect from that of the

strips 4 and to permit passage of greater amount of light from the elongated tubular lamp 6 mounted immediately to the back of the translucent stroke. This lamp, it will be seen, is in alignment with the stroke and follows it, it being preferably substantially in alignment with the center of the stroke. If desired there may also be on the edges of the translucent stroke narrow strips or borders 7 of a different or a contrasting color, and these may be either opaque or translucent so as to permit passage of light. As indicated, however, these border strips may or may not be used as desired. In the present showing they are lined for a silver color but may be of any color desired.

The tube may be mounted in any suitable manner. In the present case it is shown as secured to the back of the glass plate by angle members 8 of any suitable material such for example as asbestos, paper or cardboard cemented to the covering on the back of the glass. At the back of the lamp is a reflector 9 of any suitable material, such for example as a sheet of asbestos, paper or cardboard and secured at its opposite edges 10 by cementing to the covering at the back of the glass. This reflector is secured to the glass plate beyond the edges of the translucent stroke 2 and its inner surface is covered with material to cause it to reflect the light from the lamp into the translucent stroke. This reflector may have on its inner surface some luminescent, fluorescent or phosphorescent material to increase the illuminating effect on the character stroke. This reflector therefore serves the purpose of confining, conserving and reflecting all the light from the lamp into the character stroke, giving a much brighter and more brilliant effect. With this arrangement, when the tubular lamp is illuminated the character stroke has the effect of being raised or convexed forwardly from the face of the sign. This novel effect or illusion is caused by the illumination from the lighted lamp tube being greatest directly over the tube in the center of the character stroke and gradually diminishing in intensity toward the edges of this character stroke. This is because the lamp is immediately behind the glass and is in alignment with and follows the stroke. All of the light from the lamp is supplied to the character stroke giving very bright and brilliant illumination, and the light is diffused by the refractive action of the translucent coating or surface. Another striking effect of this arrangement of tubular lamp and character stroke is that the character stroke is perfectly legible when viewed from even the most acute angles. These effects are further augmented by combining with the tubular lamp and this translucent character stroke the reflector 9 serving to confine and reflect the light from the lamp into the character stroke. An outstanding characteristic is that the greatest effect is secured when the tubular lamp is mounted close to the back of the glass face. These effects are not nearly so pronounced even when the lamp is mounted back from the face a relatively short distance. As will be seen from Fig. 1 the tube, by way of example, is lined for the color red, it being a ruby red tube, and the portions 4 of the translucent stroke are also red but of a different shade bordering the clear or only slightly translucent stroke 5, thus giving two distinct shades of the same color in the character stroke. This clear or only slightly translucent center stroke still further accentuates the intensity of light at the center of the stroke giving an even greater raised effect as their is a greater difference in intensity between the illumination at the center than at the sides of the stroke.

The construction of the glass face member is preferably substantially that disclosed in my co-pending application, Serial No. 184,442, filed of even date herewith. In that construction cemented to the back surface of the glass is a sheet of asbestos or other fibrous material 11, or asbestos combined with a woven fabric, this being secured to the face of the glass by a layer of non-shatterable adhesive resin such for example as the acrylic and methacrylate resins, and the coloring matter for the background or other portions is mixed with this resin before it is applied to the glass or the fibrous backing. This makes a non-shatterable face construction and it seals the coloring matter between the fibrous backing and the surface of the glass where it is protected against deterioration. The fibrous backing also protects the colored surface against injury or being scraped off, and where asbestos is used it renders the construction non-inflamable. The fibrous backing further facilitates the mounting of the tubular lamp and the reflector 9 as they may be more readily cemented to this fibrous material than to the surface of the glass. This backing also protects the glass from the heat of the lamp. This fibrous backing is cut out to the shape of the translucent character stroke either before or after applying to the rear surface of the glass, and then the same adhesive is applied to the glass surface within this stroke to give it the non-shatterable construction. This adhesive resin also provides a convenient carrier for the fine powdered material which gives the translucent, luminescent, fluorescent or phosphorescent characteristic to the character stroke, by "translucent" it being meant that although the surface permits ready passage of the light from the lamp it is broken up and diffused, but the translucency is such that the outline or image of the lamp immediately back of the character stroke is easily discernible when the lamp is illuminated. When this material is fluorescent or phosphorescent it has the similar effect of breaking up or diffusing the light but the effect is much brighter and more brilliant.

The same principle is employed in the other examples illustrated these being shown as examples of various effects which may be secured with this construction. In Figs. 3 and 4 is shown an arrangement in which more than one tubular lamp may be employed. In this showing the background 12 on the glass face is lined for grey or silver and there is a continuous translucent character stroke 13 lined to indicate gold color. There may or may not also be thin border strips 14, which are lined for black. Immediately back of the translucent stroke is the tubular lamp 15 which is lined for yellow or gold color, and immediately back of that is a second tubular lamp 16 which is lined for red. In other words in this arrangement there is an entirely translucent character stroke with an illuminating tubular lamp immediately to the rear thereof and in alignment with its longitudinal center, so that when the tube is illuminated it is distinctly delineated in the center of the character stroke, in a line of light of about the width of the lamp, which light diminishes in intensity as it approaches either edge of the translucent character stroke thereby giving the character stroke as a whole the appearance of being rounded out or convexed from the face plate of the sign display

when the display is viewed from the front. This particular arrangement, however, shows how there may be combined with this effect the use of two or more tubular lamps. In this arrangement there are the two or more lamps **15** and **16** arranged in tandem form in alignment back of the center of the translucent stroke, and there may be two or more colors of translucency in the character stroke. When the tubular lamps are illuminated the colors or shades of color may be made to show in their true or approximating their true daylight color or shade of color, depending on the color or colors of light blended from the lighted lamps in back of the character stroke. In this style or arrangement an almost unlimited variety of true and varied colored combinations may be produced, especially when the new fluorescent luminous tubes are used. In the specific example shown the translucent stroke **13** is of a gold color and the two tubes **15** and **16** are the proper colors, in this case a fluorescent gold tube directly in back of the glass face, or that is the tubular lamp **15**, and the other lamp **16** being an ordinary "neon" tube giving a reddish color, although these tubes may be reversed if desired. When these lamps are lighted the combining of the colors therefrom illuminates the translucent stroke **13** in substantially the same gold color as when it is unilluminated, that is, the blending of the light from the plurality of different colored tubular lamps brings out the natural color of the translucent stroke and thus gives substantially the same color for night visibility as for daylight visibility. It will be evident that this is a great improvement in the "neon" type of sign, as heretofore the number of color effects available have been very limited and the night effect is ordinarily very different from the daylight effect. This blending of the light from the plurality of tubes is greatly improved by the enclosing reflector **17** corresponding to the reflector **9** of Fig. 1 which blends the colors helping to bring out the distinctive color in the character stroke.

In Fig. 5 there is a translucent character stroke **18**, in this instance lined for translucent grey or silver, with a luminous tubular lamp **19** immediately in back of it which is an argon and mercury lamp with a yellow coating. This gives the novel effect in this character stroke in that when the tube is illuminated it gives a bright center for the character stroke and with the intensity of light receding as it approaches the edges of this stroke, thus giving the effect of the character stroke being rounded or convexed on the face of the sign. In this particular case it also gives the effect of one color for daylight visibility and another color when the lamp is lighted for night visibility. The combination of the bluish color from the argon mercury tube and the yellow coating on the outside of the tube gives a green colored light for the character stroke.

The arrangement in Fig. 6 is similar to that of Fig. 5 except that the tubular lamp **20** to the rear of the translucent stroke is what is termed a fluorescent blue-white tube which gives the translucent character stroke **21** a silver effect when illuminated. This translucent stroke may be bordered by the narrow borders **22** of any suitable color and may be either opaque or translucent, the present showing being a black opaque border.

In Fig. 7 is shown an arrangement giving a silhouette character stroke effect. In this case the character stroke is made up of three different parts. In the center is a clear transparent or slightly translucent strip **23** of less width than the tubular lamp **24** immediately to the rear of the glass panel, with opaque panels or strips **25** on the opposite sides of the clear or transparent strip **23** and with translucent sections **26** outside the strips **25**. In this case the tube **24** is shown as the ordinary red "neon", although it may be of different colors as desired. The opaque strips **25** are lined for black and translucent strips **26** for yellow. In this arrangement when the character stroke is viewed from the front of the sign when the lamp is illuminated the character stroke has a bright center with the light shut off from either side thereof by the opaque sections **25** and with the translucent sections **26** giving a corona or halo effect on the outside of the opaque sections **25**. The red tube and yellow sections **26** give an orange effect when the tube is illuminated.

Another variation of this silhouette letter or character would be to have the center of the character stroke entirely opaque with bordering translucent or clear sections so that when illuminated you get the novel effect of a bright corona or halo showing on either side of the entirely opaque center. This arrangement is shown in Fig. 10 in which the central section **27** of the character stroke is opaque and the translucent sections **28** on opposite sides thereof give the halo effect from the tube **29** in back of the central section **27**. In this case the background **30** is lined for red, the center **27** black and the translucent portions **28** for silver effect, although of course other combinations may be used. This corona or halo of the portions **28** forms a silhouette.

In these silhouette letters or character strokes of Figs. 7 and 10 can also be used tubes in tandem similar to that shown in Fig. 4 so as to secure two or more entirely different colors in the character strokes. Thus, for example, in the arrangement of Fig. 7 showing through the center would be the light from the forward tube or the tube immediately back of the glass, and the other color from the other tube would show through the translucent sections **26** of the character stroke. The transparent or translucent sections of the character stroke may be in a variety of colors or may be clear.

In these silhouette letters or character strokes the translucent sections bordering the character strokes may be increased to practically the entire surrounding background. The silhouette character strokes may also be formed in raised style from the face to create another novel effect.

In the arrangement of Fig. 8 is an illustration of how there may be a two shade effect of the same color secured in a character stroke with a single color tube in alignment with the center immediately to the rear thereof. In this arrangement the panel **1** has an opaque background **31** of black or any other color contrasting with the translucent character stroke **32**. This translucent stroke comprises a central translucent section **33** of a relatively dark blue color and on the opposite sides thereof translucent sections **34** of a lighter blue color, the elongated tubular lamp **35** being immediately back of the central section **33**. This may be the fluorescent blue-white tube which gives a bright streak or a line of greater light intensity through the center of the darker central section **33** with the intensity gradually decreasing toward the outer edges of the sections **34**, and still there is a distinct two-shade effect between the central section **33** and outer sections **34** of the translucent character stroke.

In Fig. 9 the translucent stroke **36** is similar to that of Figs. 5 and 6 but to the rear of it the elongated tubular lamp **37** is a "neon" tube with a fluorescent coating giving the character stroke when the lamp is illuminated a light red effect. There is also secured the effect of the line of greater light intensity at the center of this translucent stroke which is substantially the width of the fluorescent tube, and with the light intensity gradually diminishing toward the opposite edges of the translucent stroke, giving the raised or convexed effect. This particular showing also has narrow opaque gold borders **38** at the opposite sides of the translucent stroke, and the contrasting background **39** is lined for dark blue, although of course any other color may be employed if desired.

In Fig. 11 is illustrated still another arrangement for different effects. In this arrangement the translucent character stroke comprises a central section **40** of one color, in the present instance blue, and which section as shown is wider than the tubular lamp **41**. The translucent stroke also includes sections **42** which are translucent and border the edges of the section **40**. These border sections **42** are lined to indicate yellow, but of course different color combinations may be used, and also different colored lamps. The background **43** in this case is lined for silver. This may be used with a single tubular lamp **41** or it may be used with a plurality of lamps in tandem similar to the arrangement indicated in Figs. 4 and 13. With this arrangement the lamp immediately back of the character stroke may be of different color from that of the other lamp to secure and accentuate the different color effects in the translucent character stroke. For example the tube immediately back of the glass may be blue to accentuate the blue of the central section **40** and the other tube may be of a color either to accentuate the yellow sections **43** or to give them a different color when the lamp is illuminated.

In Fig. 12 is shown still another arrangement whereby different color sections, strips or bands may extend across the translucent character stroke, the strips in the present case being extended diagonally. In this particular arrangement there are four separate and distinct colors **47**, **48**, **49** and **50** running diagonally across the translucent character stroke **51**, and with the tandem arrangement of a plurality of tubes of proper colors arranged immediately back of the center thereof as illustrated in Fig. 13. The four different colors in the character stroke may be made to show the same when illuminated as when not illuminated, or they may be made to show different colors when illuminated from different colors when not illuminated. That is, the lamp **44** immediately back of the stroke may be of the same or a different color to accentuate one or more sections of the translucent stroke and similarly the lamp **45** may be of a different color to accentuate other or another section of the character stroke. In this form as in the others the tubes give a brightly illuminated line in the center of the character stroke with the intensity of the illumination decreasing gradually toward the outer edges of the stroke and give the raised or convexed effect. As in the other forms the tubes are enclosed or back by a reflector indicated at **46** to confine and reflect the light from the tubes into the character stroke.

In the form shown in Figs. 14 and 15 the tube instead of being a single tube in the center of the character stroke is what is termed in the "neon" sign industry as an "outline stroke". That is the translucent character stroke comprises a central section **52** and two sections **53** at the opposite sides thereof which may be of a different shade of the same color as the central section, or they may be of a different color from the center section. In the present case the section **52** is lined for blue while the sections **53** are lined for yellow or gold, both the sections **52** and **53** being translucent. The tube **54** is double and in line with each edge portion of the translucent character stroke. That is, the two portions of this tube are in alignment with the translucent portions **53** of the character stroke, so that when the tube is illuminated the edges of the character stroke are brightly outlined with the intensity of light receding as it approaches the center of the character stroke. This adaptation will be more applicable to wide character stroke letters or letters with variable width character strokes such as are used on certain popular trade-marks. This tube **54** is enclosed by a reflector **55** as in the other forms to confine and reflect the light from the tube into the character stroke.

In all forms the principle is the same, but they illustrate different modifications and specific effects which may be secured by different arrangements of the translucent character strokes and the tubular lamp employed therewith and by the use of different colors both in the character stroke and the lamp. The translucency may be secured in a number of different ways including the introduction into the character strokes of various dyes, pigments and other coloring matter.

In all forms the principle of combining and sealing in luminescent, fluorescent or phosphorescent materials in the translucent character strokes may be employed for the purpose of intensifying, diffusing, distributing the light or altering of color in the light produced by the tubular lamps.

It is understood that the term translucent is used in the broad sense to mean transparent in cases wherein the tinted or blended color showing through the character strokes is better accomplished by the coloration and reflection intensification treatment given the reflector in back of the elongated tubular lamps.

It is also to be understood that various tube arrangements can be used with all or any of the different forms shown, that is, a single tube or a plurality of tubes, such for example as the arrangement shown in Figs. 4 and 13 or other arrangement may be used with any of these forms.

Having thus set forth the nature of my invention, what I claim is:

1. An electric sign comprising a glass plate having thereon a translucent character stroke contrasting with a background for daylight visibility, an elongated tubular lamp immediately back of the character stroke and in alignment with the center thereof, and reflecting means at the rear of and adjacent the lamp to reflect and deflect light coming from the rear of the lamp into the translucent character stroke.

2. An electric sign comprising a glass plate having thereon a translucent character stroke contrasting with a background for daylight visibility, an elongated tubular lamp directly back of said character stroke and extending in alignment therewith, and said translucent stroke being wider than the lamp so that the greater illumination is at the center of the stroke with gradually diminishing intensity toward the edges thereof,

and reflecting means in back of and adjacent the lamp to reflect the light from the rear of the lamp into the character stroke.

3. An electric sign comprising a glass plate having thereon a translucent character stroke contrasting with a background for daylight visibility, an elongated tubular lamp immediately back of the character stroke and following the stroke in alignment therewith, and a reflector in back of the lamp and extending substantially to the glass at opposite sides of the stroke for confining the light from the lamp and reflecting it in to said stroke.

4. An electric sign comprising a glass plate having thereon a translucent character stroke contrasting with a background for daylight visibility, an elongated tubular lamp directly back of said character stroke and following said stroke in alignment therewith, said translucent stroke being wider than the lamp so that the greater illumination is at the center of the stroke with gradually reducing intensity toward the edges thereof, and a reflector in back of the lamp and extending to the glass at the opposite sides of the stroke for confining the light from the lamp and reflecting it into said stroke.

5. An electric sign comprising a glass face plate having thereon translucent character strokes contrasting with a background, elongated tubular lamps directly back of and in alignment with said character strokes, said character strokes being wider than said tubular lamps so that there is greater illumination through said character strokes directly in front of said tubular lamps with gradually diminishing illumination toward the edges of the strokes, and reflectors positioned to the rear of said tubular lamps to reflect and deflect the light coming from the rear of said lamps into said translucent character strokes.

6. An electric sign comprising a glass plate having thereon a translucent character stroke contrasting with a background, an elongated tubular lamp directly back of and in alignment with said character stroke, said character stroke being wider than said lamp so that there is greater illumination through said character stroke directly in front of the tubular lamp with gradually diminishing illumination toward the edges of the stroke, a reflector so positioned in the rear of said tubular lamp as to reflect and deflect the light coming from the rear of said lamp into said translucent character stroke, and said reflector having its surface which is exposed to the light coming from the lamp covered or treated with highly reflective or colored material for the purpose of tinting or boosting the illumination through the character stroke.

7. An electric sign comprising a glass face plate having thereon a translucent character stroke contrasting with a background, an elongated tubular lamp or lamps directly back of and in alignment with the outlines or edges of said character stroke, so that there is greater illumination in alignment with the outline edges of said stroke for the purpose of more brightly defining the shape or outline thereof, and reflectors so positioned in back of said tubular lamps as to efficiently confine and direct the illumination into said character stroke.

8. An electric sign comprising a glass face plate having thereon a translucent character stroke contrasting with a background, elongated tubular lamps in tandem or multiple formation back of and in alignment with said stroke, said lamps having similar or different colors of illumination to create different and varied color combinations showing through the translucent character stroke, and reflector means so positioned in relation to said lamps as to blend, reflect and deflect the light from the tubes into the translucent character stroke.

9. An electric sign comprising a glass face plate having a character stroke thereon contrasting with a background, said character stroke having an opaque center section with translucent bordering sections on either side, and an elongated tubular lamp or lamps directly in back of said opaque center section so that when illuminated the illumination from the lamp is invisible through the opaque section of the character stroke but the illumination shows in corona effect through the translucent sections of the character stroke on either side of the opaque section.

10. An electric sign comprising a glass face plate having thereon a character stroke contrasting with a background, said character stroke comprising a clear or translucent narrow strip in the center thereof, said narrow clear strip being bordered on each side by opaque sections, and said opaque sections being bordered by translucent sections, an elongated tubular lamp directly in back of and in alignment with said center clear section so that when said lamp is illuminated the illumination shows in bright intensity through the narrow clear section of the character stroke with a subdued corona effect of illumination showing through the translucent sections.

11. An electric sign comprising a glass face plate having thereon a character stroke contrasting with a background, said character stroke including a substantially opaque portion and the background being translucent or light transmitting, and an elongated tubular lamp directly back of and in alignment with the opaque portion of the character stroke so that when illuminated the lamp is invisible but the light from the same illuminates the translucent background causing the opaque portion of the character stroke to stand out in silhouette effect.

12. An electric sign comprising a glass face plate having thereon a translucent character stroke contrasting with a background, and an elongated tubular lamp directly back of and in alignment with said character stroke so that when illuminated said lamp is defined through the center of the translucent stroke with a line of comparatively intensified illumination, thereby giving the character stroke when viewed from the front the appearance of being convexed or rounded from the face of the plate, and reflecting means at the rear of and adjacent the lamp to reflect and deflect light coming from the rear of the lamp into the character stroke.

13. An electric sign comprising a glass face plate having thereon a character stroke contrasting with a background, said character stroke including a translucent strip, an elongated tubular lamp directly back of and in alignment with said character stroke, and a reflector back of the lamp and so positioned with respect thereto as to reflect light from the lamp into the character stroke.

14. An electric sign comprising a glass plate having thereon a translucent character stroke contrasting with a background for daylight visibility, an elongated tubular lamp directly back of said character stroke and extending in alignment therewith, said translucent stroke being wider than the lamp so that the greater illumi-

nation is at the center of the stroke with gradually diminishing intensity toward the edges thereof, the degree of translucency being such that the outline or image of the lamp is discernible from the front of the plate when the lamp is illuminated, and reflecting means back of and adjacent the lamp to reflect light coming from the rear of the lamp into the character stroke.

15. An electric sign comprising a glass plate having thereon a light transmitting character stroke contrasting with a background, an elongated tubular lamp directly back of and in alignment with said character stroke, a reflector so positioned in the rear of said tubular lamp as to reflect and deflect the light coming from the rear of said lamp into said character stroke, and said reflector having its surface which is exposed to the light coming from the lamp covered or treated with highly reflective or colored material for the purpose of tinting or boosting the illumination through the character stroke.

16. An electric sign comprising a glass face plate having thereon a character stroke contrasting with a background, said character stroke including a substantially opaque portion and the background being translucent or light transmitting, and elongated tubular lamps directly back of and in alignment with the opaque portion of the character stroke so that when illuminated light from the same illuminates the translucent background causing the opaque portion of the character stroke to stand out in silhouette effect, said lamps having similar or different colors of illumination to create similar or varied color combinations showing through the light transmitting portions of the background.

17. An electric sign comprising a glass face plate having thereon a character stroke contrasting with a background, said character stroke including one or more light transmitting sections, an elongated tubular lamp directly back of and in alignment with said character stroke, and reflecting means back of and adjacent said lamp to reflect light from the lamp into the character stroke.

18. An electric sign comprising laterally spaced glass face plates having thereon character strokes contrasting with a background, said character strokes including one or more light transmitting sections, an elongated tubular lamp between the face plates directly back of and in alignment with said character strokes, and reflecting means back of and adjacent said lamp to reflect light from the lamp into the character strokes.

19. An electric sign comprising a glass face plate having thereon a character stroke contrasting with a background, said character stroke including a substantially opaque portion with a center strip which is light transmitting or translucent and the background being translucent or light transmitting, and an elongated tubular lamp directly back of and in alignment with the opaque portion of the character stroke so that when illuminated the lamp is invisible but the light from the same illuminates the translucent background causing the opaque portion of the character stroke to stand out in silhouette effect.

20. An electric sign comprising a glass face plate having thereon a character stroke contrasting with a background, said character stroke including a substantially opaque portion and the background being translucent or light transmitting, and an elongated tubular lamp directly back of and in alignment with the opaque portion of the character stroke so that when illuminated light from the lamp illuminates the translucent background causing the opaque portion of the character stroke to stand out in silhouette effect.

IRVING V. MANSELL.