

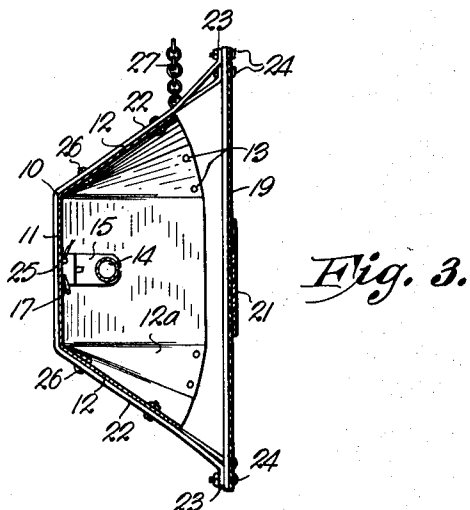
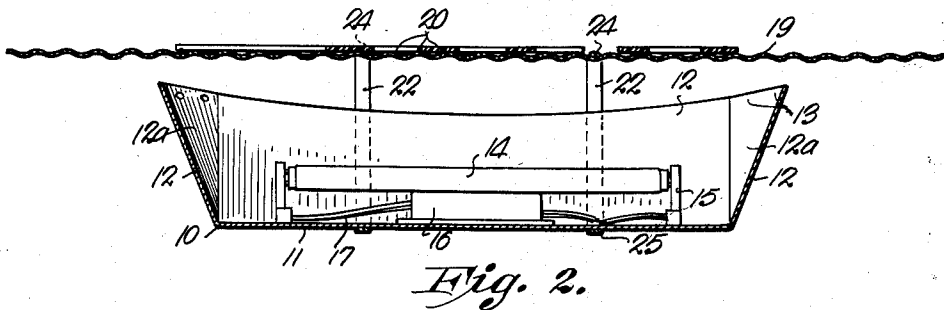
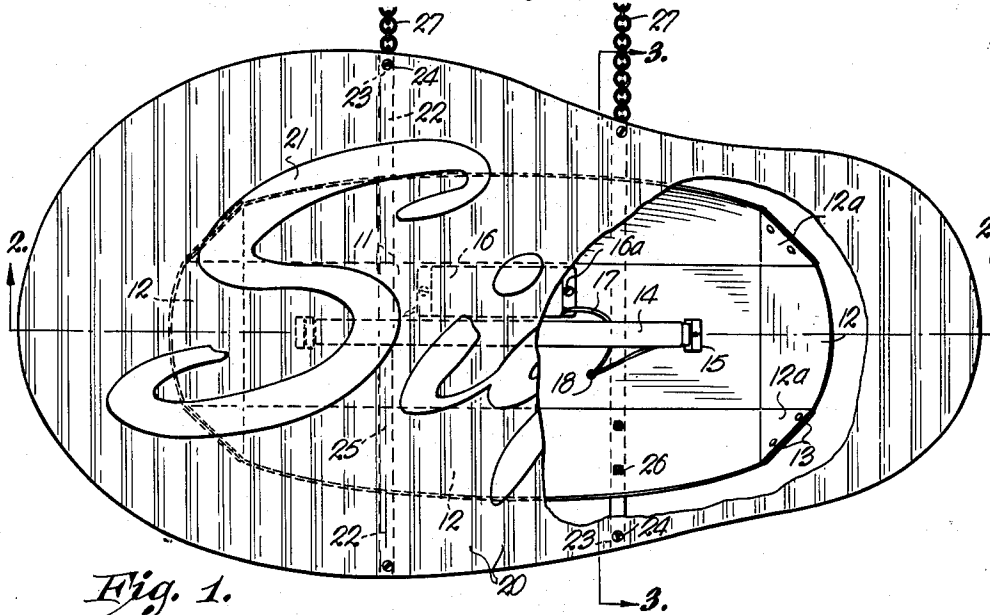
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P. V. MAZE

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ILLUMINATED SIGN

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ILLUMINATED SIGN

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1 Claim. (Cl. 40—130)

This invention relates to an illuminated sign and refers more particularly to an illuminated sign comprising a reflector, a translucent sign face positioned in front of the reflector and a source of illumination spaced therebetween, the translucent face being positioned free of the reflector to permit enlargement thereof relative the reflector and the creation of a halo effect by rearward reflection therefrom.

An object of the invention is to provide an illuminated sign comprising a source of illumination, a reflector and a translucent sheet forming the face of the sign, wherein the sign face may be constructed of substantially greater area than the area of the reflector while still being fully and uniformly illuminated.

Another object of the invention is to provide an illuminated sign made up of a source of illumination, a reflector and a translucent sheet acting as the face of the sign, wherein the face of the sign may be constructed substantially larger in area than the area of the reflector while yet being fully and uniformly illuminated, and in addition, rearward reflection from the face of the sign may be employed to create a halo effect on a wall behind the sign, the halo itself being of greater area than the face of the sign thereby increasing the effective area thereof.

Another object of the invention is to provide an illuminated sign which functions equally effectively as an outdoor or an indoor sign.

Another object of the invention is to provide an illuminated sign composed of a source of illumination, a reflector and a translucent sheet forming the face of the sign, wherein the reflector provides a protection for the source of illumination although the reflecting face thereof is open and not closed or sealed by the face of the sign.

Another object of the invention is to provide an illuminated sign comprising a reflector, a translucent face and a source of illumination therebetween, wherein many sign faces varying either or both in form or size are freely employable with a single reflector unit.

Another object of the invention is to provide an illuminated sign wherein the light thereof is focused on a predetermined area, the face of the sign, yet is diffused evenly on said face so the source of illumination is not detectable or defined through the face.

Another object of the invention is to provide an illuminated sign wherein all of the light from the source of illumination is effectively employed in emphasizing the face of the sign and focusing attention thereon.

Another object of the invention is to provide an illuminated sign of simple construction, light weight and which is cheap to manufacture.

Another object of the invention is to provide an illuminated sign which is highly versatile in its application, which is useable and manufacturable in any desired size and which will effectively display any form or style of indicia or copy.

Another object of the invention is to provide an illuminated sign which is employable indoors as a source of indirect lighting as well as an advertising device.

Yet another object of the invention is to provide an illuminated sign comprising a source of illumination backed by a reflector and faced by a translucent sheet, the translucent sheet being supported by means communicating between the sheet and the reflector, wherein no dark or dead spots appear in the face of the sign although

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the face thereof is of greater area than the area of the reflector.

Other and further objects of the invention will appear in the course of the following description thereof.

5 In the drawing, which forms a part of the instant specification and is to be read in conjunction therewith, an embodiment of the invention is shown, and, in the various views, like numerals are employed to indicate like parts.

FIG. 1 is a front view of the inventive illuminated sign with a portion of the face thereof cut away to show the construction of the reflector and source of illumination therebehind, the remainder of the sign obscured by the face being indicated in dotted lines.

FIG. 2 is a view taken along the lines 2—2 of FIG. 1 in the direction of the arrows.

FIG. 3 is a view taken along the lines 3—3 of FIG. 1 in the direction of the arrows.

Referring to the drawings, reflector 10 is preferably composed of polished reflecting metal such as aluminum sheet. The reflector preferably has central dished portion 11 and upwardly angles sides 12 to form a concave reflecting face for the reflector. The eight faceted reflector shown was simply constructed by inwardly cutting (bisecting) the vertices of a rectangular metal sheet, folding up the end portions to the desired angle and height, bending the corners to coincide as shown and trimming off excess portions. The overlying corner portions are joined by rivets or other conventional connecting means 13. The essentially oval reflector shown in the drawings is preferable for elongate signs, as illustrated, but any desired form reflector may be employed, such as circular, square, hexagonal, rectangular, etc. It is also preferred to have a greater number of facets in the upwardly angled sides than four, as the angled corner facets 12a, in order to create more uniform diffusion of the light from the reflector face.

A source of illumination is positioned relative the reflecting side of the reflector 10. This source of illumination may be of any desired type, such as an incandescent bulb, a plurality of incandescent bulbs arranged in any manner, a fluorescent bulb (as shown), a plurality of fluorescent bulbs, or fixtures of cold cathode lighting such as neon. The latter two forms of illumination are preferred as they give a more diffused illumination than incandescent bulbs, but the neon is preferably employed only outdoors in larger installations. The preferable form of illumination source shown comprises a fluorescent bulb 14 received in mounting connections 15, having ballast or transformer 16, and suitable conventional wiring 17. The wiring 17 is led out the back of the reflector 10 through opening 18 and may be connected to any suitable conventional source of electrical power (not shown). The bulb 14 is preferably mounted in the dished portion 11 of the reflector and mounting connections 15 are preferably of sufficient height to raise bulb 14 above ballast 16. Ballast 16 is fixed to the dished portion of the reflector by bolts 16a. It is evident that the size of the illumination source and its form must be adjusted to the form and size of the reflector. The source of illumination is preferably positioned equidistant from the angled sides of the reflector so as to achieve uniform distribution of light thereon.

A translucent sheet comprising the face of the sign is positioned adjacent the reflector 10 next the reflecting side thereof and spaced away therefrom and away from the source of illumination. The sheet or sign face 19 is shown in FIG. 2 in cross section with corrugation 20 but may be of any desired configuration in cross section such as flat, corrugated, striated, angled, etc. Indicia or copy 21 is fixed to the face of the sign on the side opposite the side adjacent the reflector. Indicia 21 may be of any desired

material or form and is fixed thereto by conventional means such as gluing, riveting, etc. The sheet 19 or face of the sign is preferably substantially of greater area than the area of the reflector 10. It is evident that the distance between the face 19 and the reflector 10, the angles of the inclined faces 12 of the reflector relative the dished portion 11 and the distance of the source of illumination 14 from the surface of the reflector all are factors relevant to the feasible area of the sign face 19. If the edges of the sign face do not extend at least to the periphery of the direct rays of light from the source of illumination, the latter will be visible sometimes to on-lookers at certain positions. This is not desirable and, thus, the edges should preferably extend at least to the periphery of said direct rays. In some instances, such as when a relatively powerful source of illumination is employed or the sheet 19 has a relatively high rearward reflectivity, it may be desirable to extend the edges of the sheet 19 beyond the periphery of the direct rays from the source of illumination. The shape of the face 19 may be that of the reflector 10 or vary as desired therefrom. Any desired material, so long as it is translucent, such as frosted glass, Plexiglas, various plastics, etc., may be employed as a face. The multifaceted reflector faces, back reflection from the translucent face 19, the translucence of the face itself, and the corrugations 20, if such are present, all aid in the diffusion of the light from source 14 so as to effectively obscure the position of the illumination source and provide an evenly diffused illumination for the sign face.

Means are provided for fixing the sign face 19 relative the reflecting face of the reflector 10 and the source of illumination 14, said means communicating between the reflector and the sheet 19. A preferred form of such connecting means is shown in the figures comprising metallic arms or brackets 22, having angled portions 23 at the ends thereof to receive bolts 24. The bolts 24 connect the ends of the brackets to the sheet 19. Straight central portions 25 of the brackets fit the rear face of the dished portion 11 of the reflector. Bolts 26 connect the brackets 22 to the angled faces of the reflector. The portions of the brackets 22 which extend past the angled faces of the reflector 10 are preferably outwardly angled as much as possible whereby to be positioned, if possible, outside the direct path of the light to the sheet 19. The connection of the brackets 22 to the rear faces of the reflector and the face 19, and the outward angling of the bracket portions extending between the reflector and the face permit a minimum obscuring of the face itself and thus a minimizing of dark or dead spots on the visible sign face.

Means for supporting and positioning the illuminated sign relative a wall are illustrated with chains 27 engaging attachments 28 on strips 22. This supporting means is only one form of many possible, enabling the illuminated sign unit to be suspended from a ceiling and be spaced as desired from a wall. Any conventional form of brackets attached to the wall itself may be employed, it merely being desirable to keep the suspending or attaching means outside of the direct line of light from the illuminating source 14 to the sheet 19 to avoid dark spaces or dead spots on the sign itself.

It is evident that light reflected rearwardly from the reflector face of the sheet 19 will form a halo on a wall spaced adjacent the nonreflecting side of the reflector. The further the illuminated sign is spaced from the wall, the greater the area of the halo will be. Such a halo will effectively increase the actual size of the sign. In some installations it may be desirable to illuminate an entire wall in this manner. Indoors, such halo effect may be employed to produce an indirect lighting effect in combination with the illumination from the sign face itself. It is evident that the employment of an enlarged sign face relative the reflector, and the resulting halo effect is achieved only by the separation of the reflector and the sign face. Through the use of various types of faces having various forms and indicia thereon, it is also obvious that any type of sign or copy may be imitated with a single basic lighting unit without any variation of the lighting components.

From the foregoing it will be seen that this invention is one well adapted to attain all the ends and objects hereinabove set forth, together with other advantages which are obvious and which are inherent to the structure.

It will be understood that certain features and sub-combinations are of utility and may be employed without reference to other features and subcombinations. This is contemplated by and is within the scope of the claim.

As many possible embodiments may be made of the invention without departing from the scope thereof, it is to be understood that all matter hereinabove set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim:

An illuminated and illuminating sign comprising a reflector having a dished face, a source of illumination within and fixed relative to said dished face, a translucent sheet positioned in front of said reflector, said sheet of substantially greater area than said reflector, said sheet spaced a sufficient distance away from said reflector that direct rays of light from said source of illumination reach a continuous circumferential portion of said sheet outside of the area of said sheet directly in line with the reflector, said sheet yet so spaced from the reflector and so sized relative thereto that no direct rays of light from said source of illumination can pass therefrom outside the reflector without contacting the sheet.

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